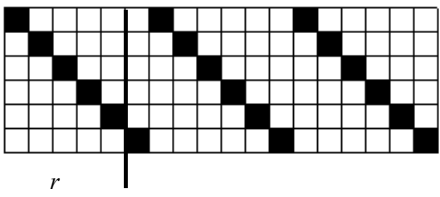
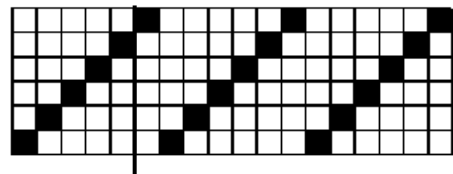
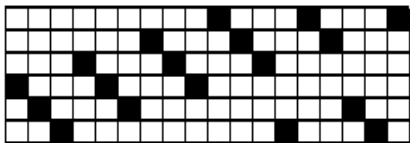
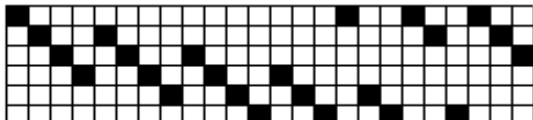
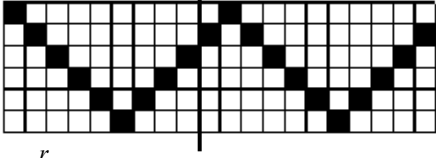
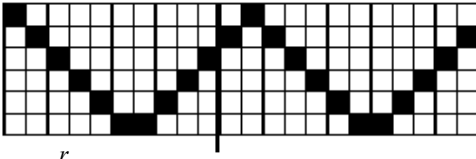
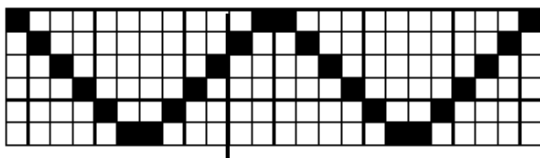
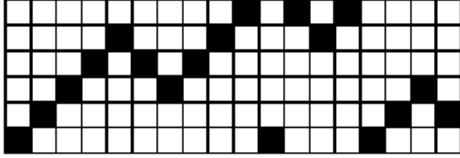
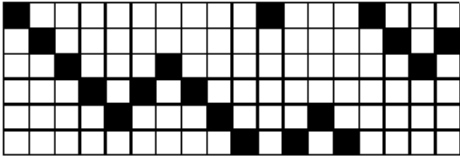
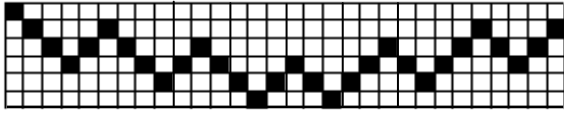
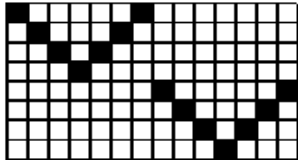
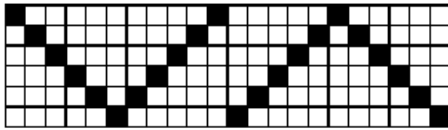
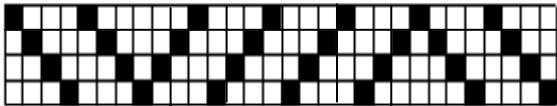
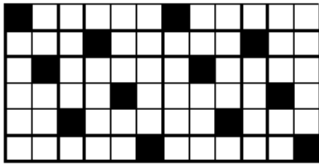
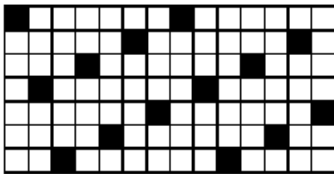
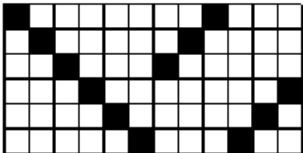


# IV.10

## TIPURI DE NĂVĂDIRE A FIRELOR ÎN IȚE

Nr. crt.	Tipul năvădirii	Desenul năvădirii	
1.	<b>Năvădire dreaptă</b> $r = k$ $r =$ raportul de năvădire $k =$ numărul de ițe	Tip „S“	 Fig. IV.10.1
		Tip „Z“	 Fig. IV.10.2
2.	<b>Năvădirea dreaptă progresivă</b> $r = m \cdot n$ $n = \frac{x \cdot k}{d}$ $m =$ nr. de fire din modul $x \in \mathbb{N}^*$ $d =$ decalarea între module $k =$ numărul de ițe	Ascendentă ( $d > 0$ )	 Fig. IV.10.3
		Descendentă ( $d < 0$ )	 Fig. IV.10.4

3.	<b>Năvădire ascuțită</b>	Cu vârf simplu $r = 2k - 2$	 <p style="text-align: center;">Fig. IV.10.5</p>
		Cu vârf semidublu $r = 2k - 1$	 <p style="text-align: center;">Fig. IV.10.6</p>
		Cu vârf dublu $r = 2k$	 <p style="text-align: center;">Fig. IV.10.7</p>
4.	<b>Năvădire ascuțită progresivă</b> $r = m \cdot n$ $n = \frac{x \cdot k}{d}$ $m = \text{nr. de fire din modul}$ $x \in \mathbb{N}^*$ $d = \text{decalarea între module}$ $k = \text{numărul de ițe}$	Ascendentă	 <p style="text-align: center;">Fig. IV.10.8</p>
		Descendentă	 <p style="text-align: center;">Fig. IV.10.9</p>
		În dublu sens	 <p style="text-align: center;">Fig. IV.10.10</p>

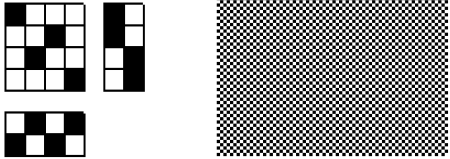
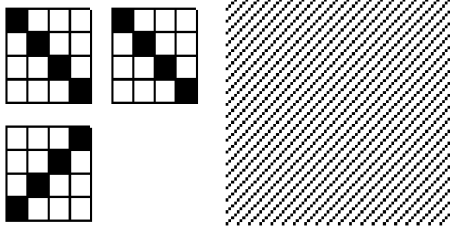
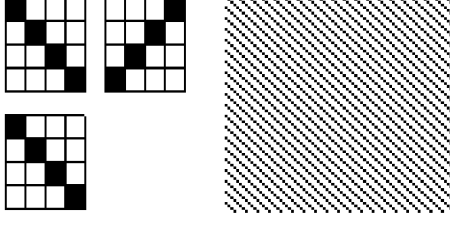
5.	<p><b>Năvădirea ascuțită mutată</b>  <math>r = 2k - 2</math></p>		 <p>Fig. IV.10.11</p>
6.	<p><b>Năvădirea ascuțită din mai multe părți</b>  <math>r = 4k - 2</math></p>	Simplă	 <p>Fig. IV.10.12</p>
		Prelungită	 <p>Fig. IV.10.13</p>
7.	<p><b>Năvădirea împrăștiată</b>  <math>r = k</math></p>	Pe grupe de ițe	 <p>Fig. IV.10.14</p>
		Tip atlas $r = k$	 <p>Fig. IV.10.15</p>
8.	<p><b>Năvădirea încrucișată</b></p>		 <p>Fig. IV.10.16</p>

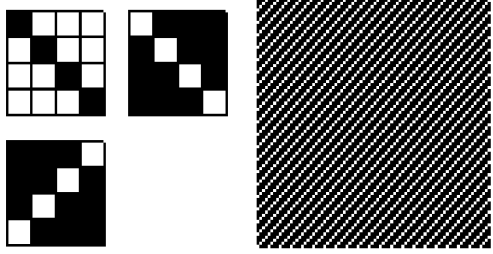
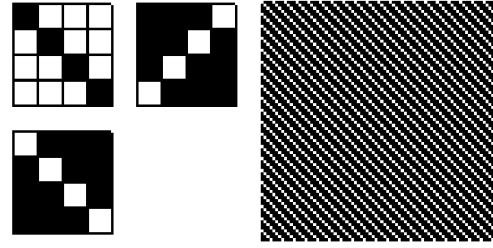
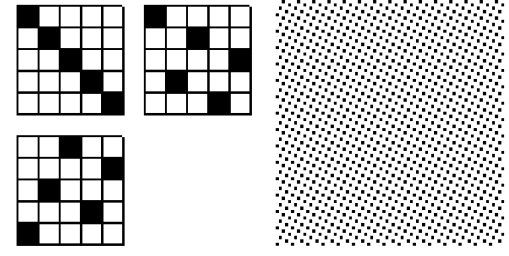
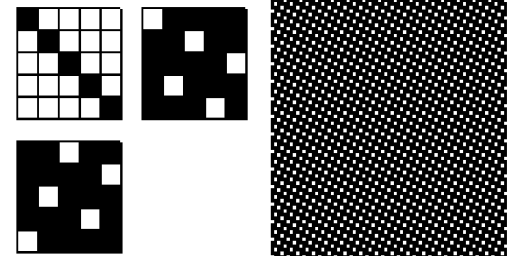
9.	Năvădire dublă	Dreaptă $r = 2k$	<p>Fig. IV.10.17</p>
		Ascuțită $r = 2(k - 2)$	<p>Fig. IV.10.18</p>
10.	Năvădire împărțită		<p>Fig. IV.10.19</p>
11.	Năvădire în corpuri de ițe	Egale	<p>Fig. IV.10.20</p>
		Neegale	<p>Fig. IV.10.21</p>

# IV.11

## LEGĂTURI PENTRU ȚESĂTURI SIMPLE

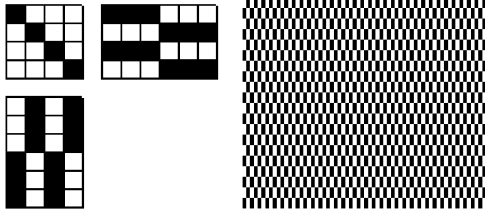
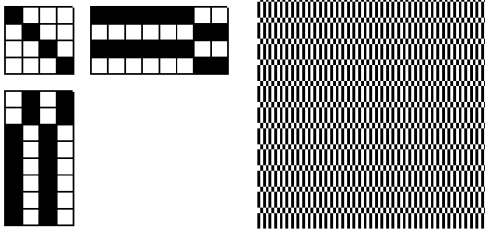
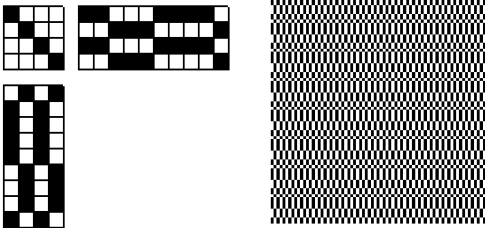
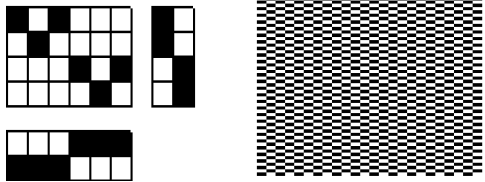
### IV.11.1. Legături fundamentale

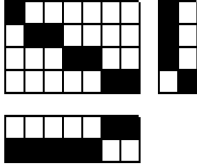
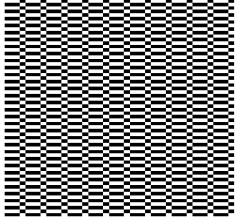
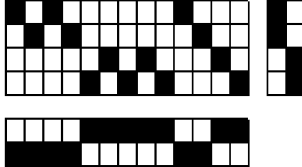
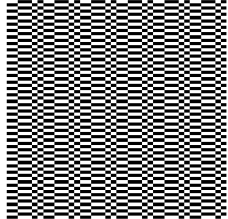
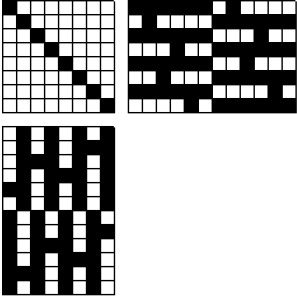
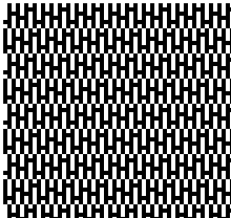
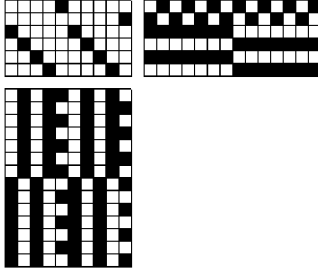
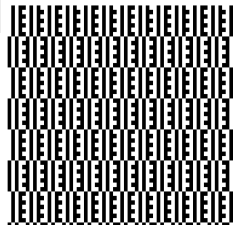
Nr. crt.	Denumirea legături		Schema de programare și simularea
1.	<p><b>Pânză</b></p> <p><math>Ru = Rb = 2</math> <math>Su = Sb = 1</math></p>		 <p>Fig. IV.11.1</p>
2.	<p><b>Diagonal fundamental</b></p> <p><math>Ru = Rb &gt; 2</math> <math>S = \pm 1</math></p>	<p>Cu efect de bătătură</p> <p>Tip Z</p>	 <p>Fig. IV.11.2</p>
		<p>Tip S</p>	 <p>Fig. IV.11.3</p>

		Cu efect de urzeală	<p>Tip Z</p>  <p>Fig. IV.11.4</p>
		Tip S	 <p>Fig. IV.11.5</p>
3.	<p><b>Atlas fundamental</b></p> <p><math>Ru = Rb &gt; 4</math>  <math>1 &lt; S &lt; R - 1</math>  <math>S</math> și <math>R</math> nu au divizori comuni</p>	Cu efect de bătătură	 <p>Fig. IV.11.6</p>
		Cu efect de urzeală	 <p>Fig. IV.11.7</p>

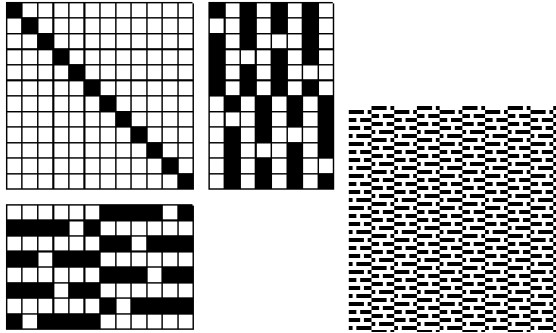
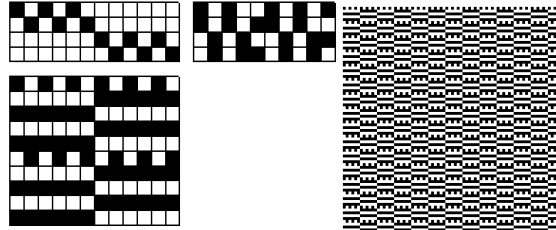
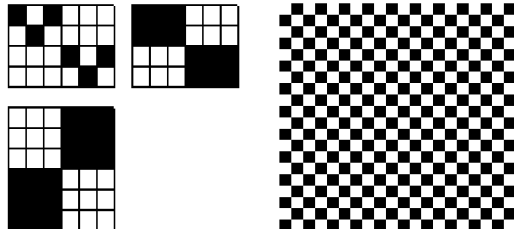
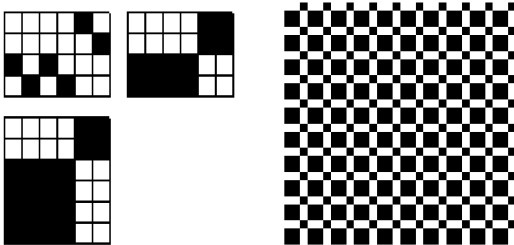
**IV.11.2. Legături derivate**

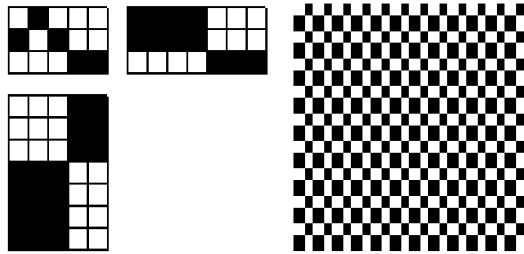
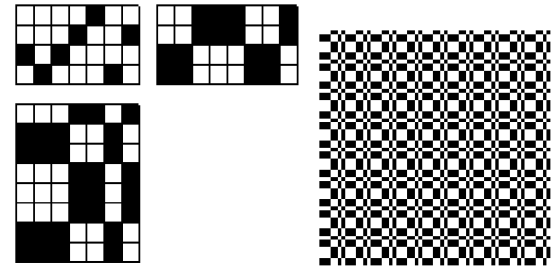
**IV.11.2.1. Legături derivate din legătura pânză**

Nr. crt.	Denumirea legăturii		Schema de programare și simularea
1.	<b>Rips</b>	De urzeală Cu caracter regulat	 <p>Fig. IV.11.8</p>
		De urzeală Cu caracter neregulat	 <p>Fig. IV.11.9</p>
		Compus	 <p>Fig. IV.11.10</p>
		De bățatură Cu caracter regulat	 <p>Fig. IV.11.11</p>

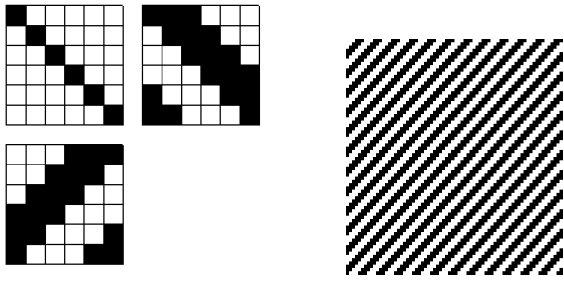
			Cu caracter neregular	 	Fig. IV.11.12
			Compus	 	Fig. IV.11.13
		Întărit	De urzeală	 	Fig. IV.11.14
			Cu fire de întărire	 	Fig. IV.11.15

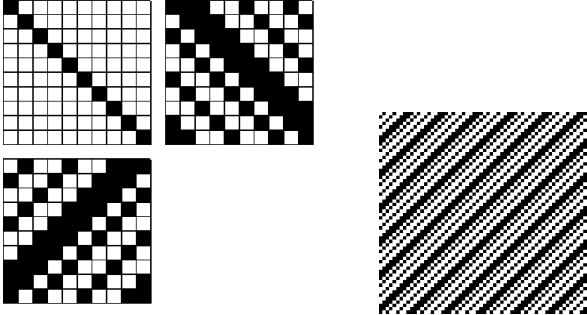

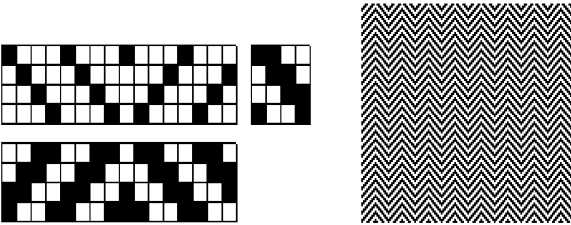
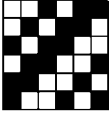
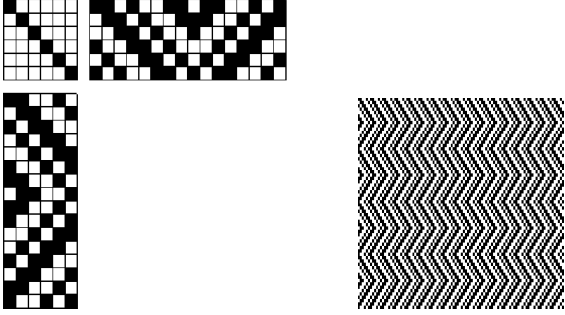
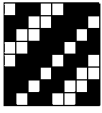
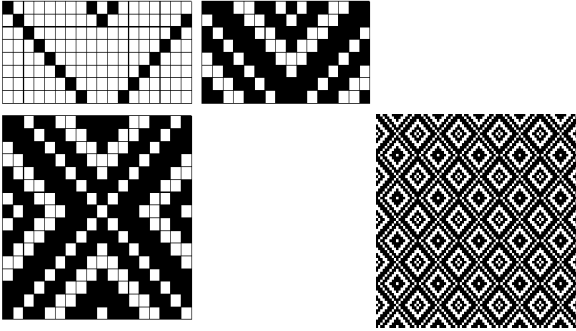


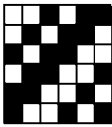
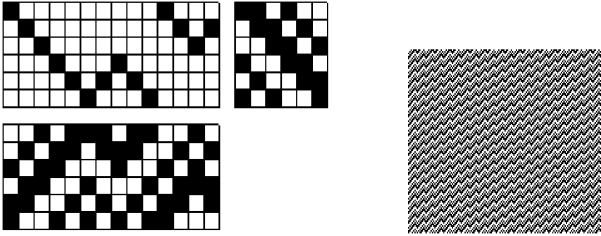
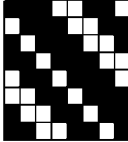
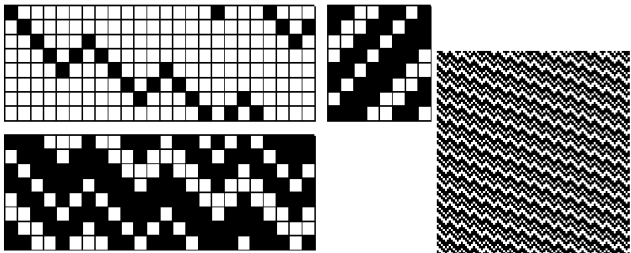
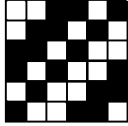
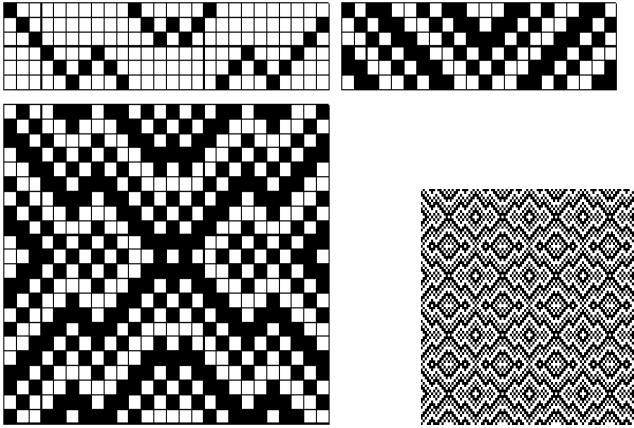
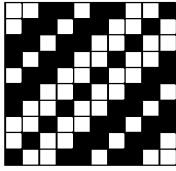
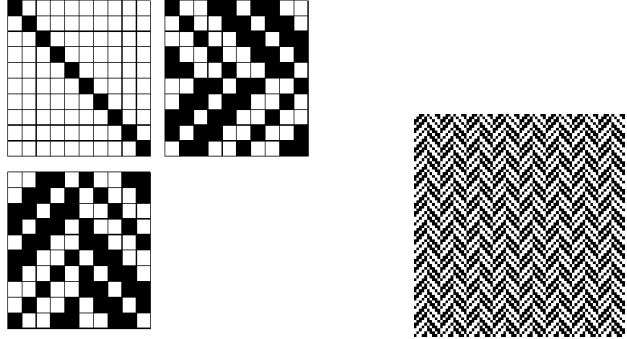
		De bățură	Prin puncte de întărire	 <p>Fig. IV.11.16</p>
			Cu fire de întărire	 <p>Fig. IV.11.17</p>
2.	Panama	Cu caracter regulat	 <p>Fig. IV.11.18</p>	
			Cu caracter parțial neregulat	 <p>Fig. IV.11.19</p>

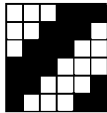
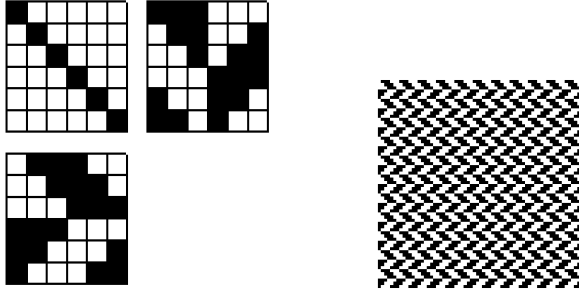
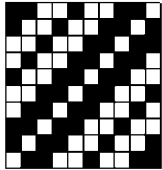
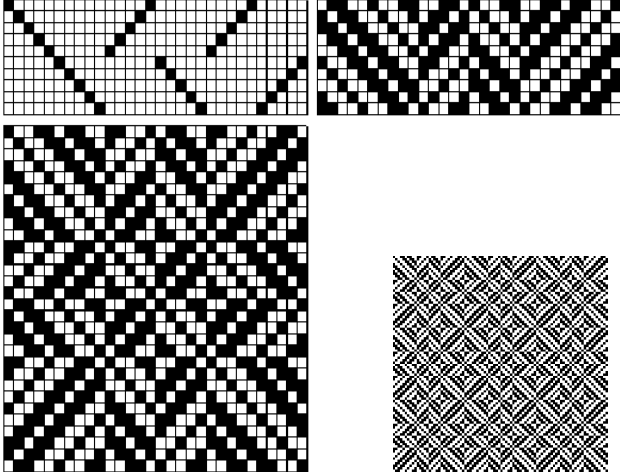
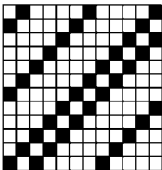
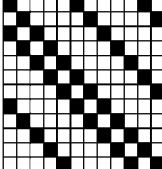
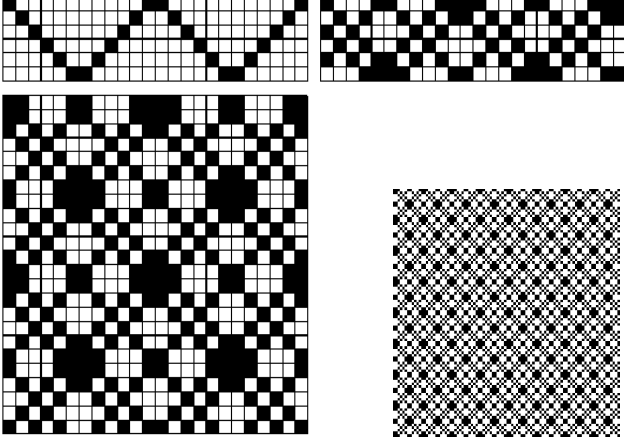
		Cu caracter total neregulat	
		Compusă	


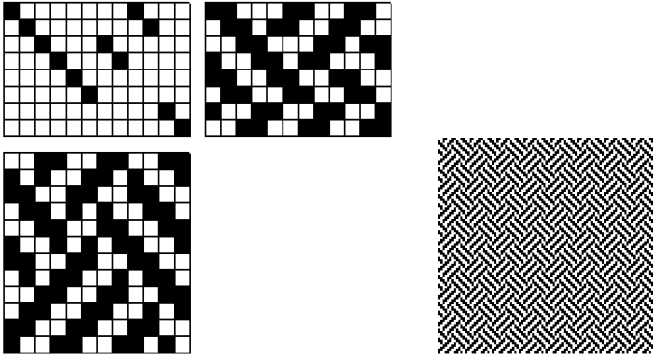
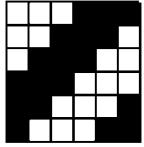
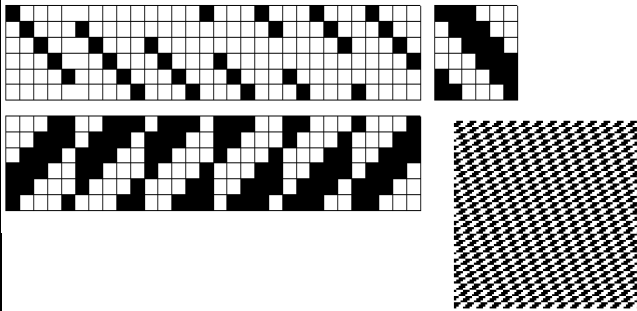
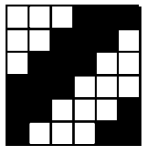
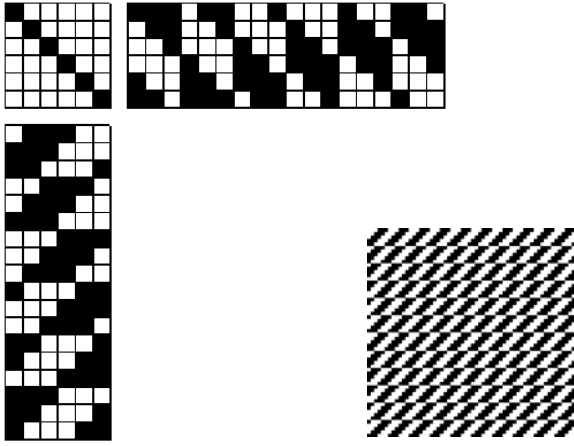
#### IV.11.2.2. Legături derivate din legătura diagonal


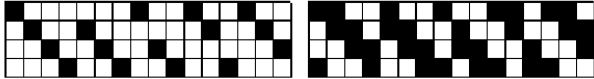
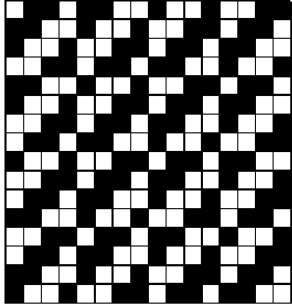
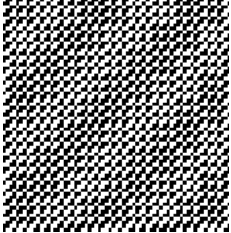
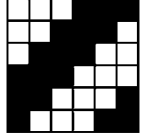
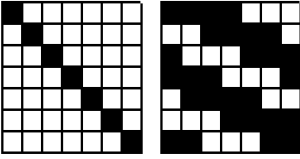
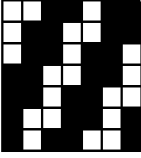
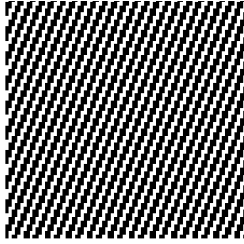
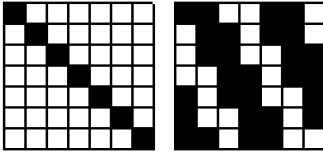
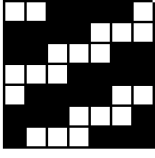
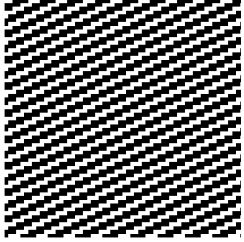
Nr. crt.	Denumirea legăturii	Schema de programare și simularea
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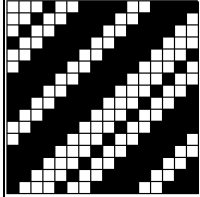
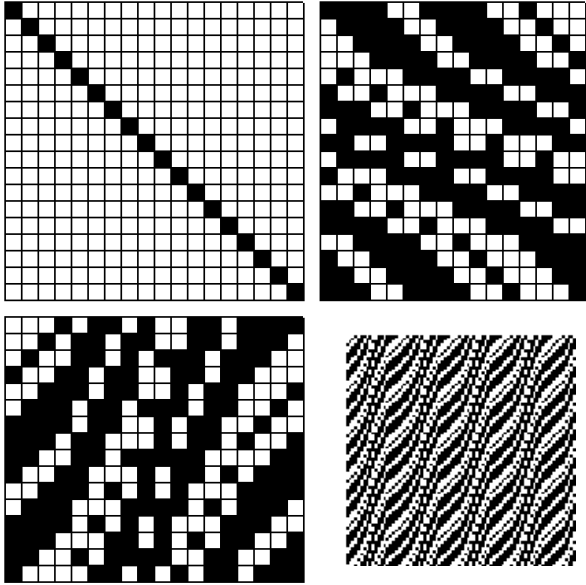
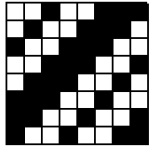
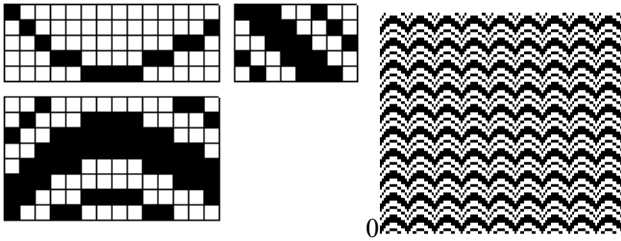

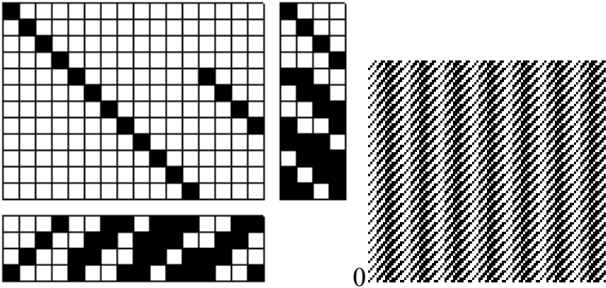
<p>2.</p>	<p><b>Diagonal compus</b></p>	 <p>Fig. IV.11.23</p>
	<p><b>Diagonal ascuțit</b></p>  <p>Legătura de bază  <math>Ru = 2 n_u - 2</math>  <math>Rb = Rb_b</math>  <math>n_u</math> – numărul de fire de urzeală din ramura ascendentă;  <math>Rb_b</math> – raportul în bățatură al legăturii de bază</p>	<p>Transversal</p>  <p>Fig. IV.11.24</p>
<p>3.</p>	 <p><math>Ru = Ru_b</math>  <math>Rb = 2n_b - 2</math>  <math>n_b</math> – numărul de fire de bățatură din ramura ascendentă;  <math>Ru_b</math> – raportul în urzeală al legăturii de bază</p>	<p>Longitudinal</p>  <p>Fig. IV.11.25</p>
	 <p>Legătura de bază  <math>Ru = 2 n_u - 2</math>  <math>Rb = 2 n_b - 2</math></p>	<p>Rombic</p>  <p>Fig. IV.11.26</p>

<p>4.</p>	<p><b>Diagonal ascuțit progresiv</b></p>  <p>Legătura de bază</p>	<p>Ascendent</p>  <p>Fig. IV.11.27</p>
	 <p>Legătura de bază</p>	<p>Descendent</p>  <p>Fig. IV.11.28</p>
	 <p>Legătura de bază</p>	<p>Rombic</p>  <p>Fig. IV.11.29</p>
<p>5.</p>	<p><b>Diagonal încrucișat cu linii care nu se întretaie</b></p>  <p>Legătura de bază</p>	<p>Longitudinal</p>  <p>Fig. IV.11.30</p>


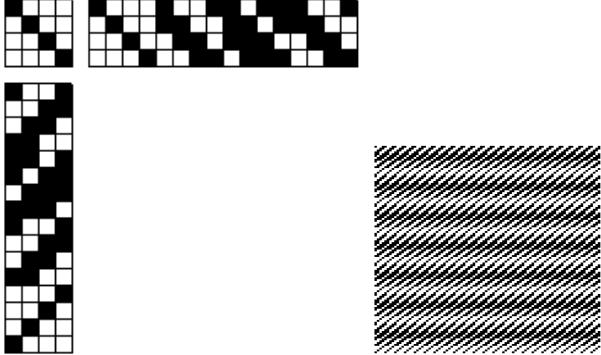
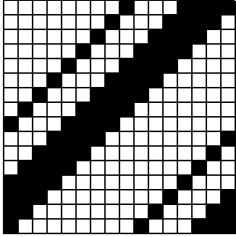
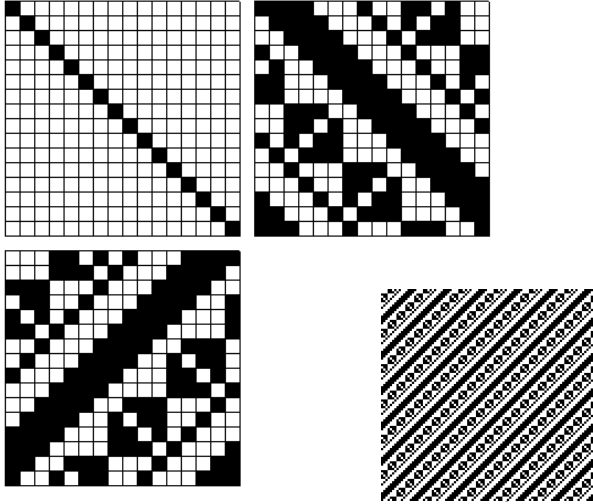
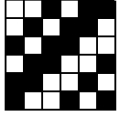
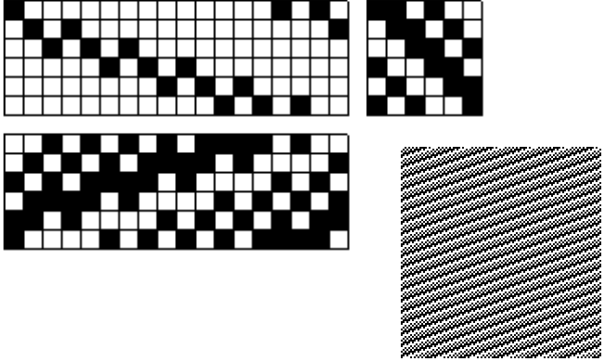
 <p>Legătura de bază</p>	<p>Transversal</p>	 <p>Fig. IV.11.31</p>
 <p>Legătura de bază</p>	<p>Bidirecțional</p>	 <p>Fig. IV.11.32</p>
<p><b>Diagonal încrucișat cu linii care se întretaie</b></p>  <p>a)</p>  <p>b)</p> <p>Legături de bază</p>		 <p>Fig. IV.11.33</p>

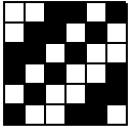
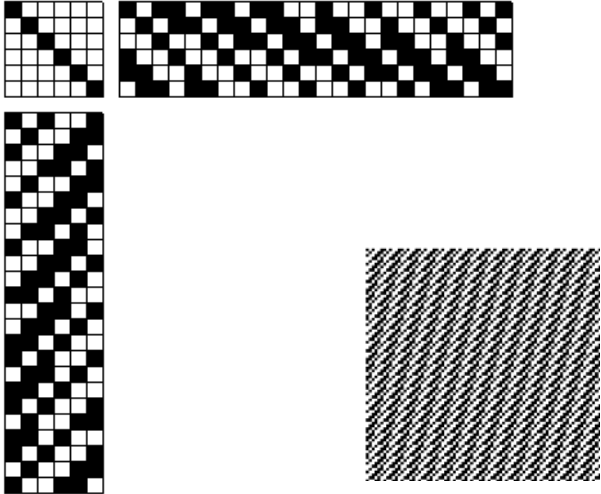
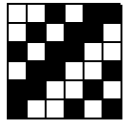
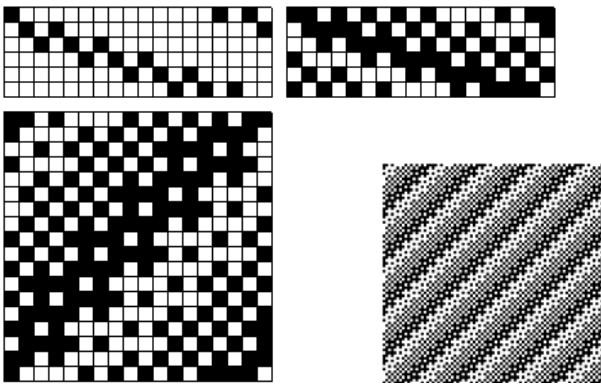
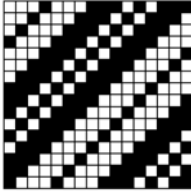
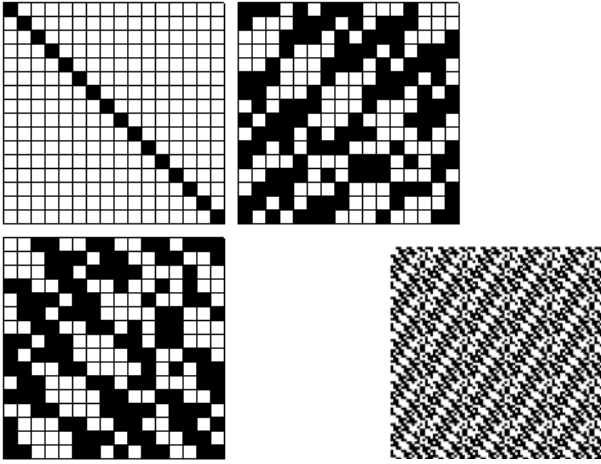
<p>6.</p>	<p><b>Diagonal împletit</b></p>  <p>Legătura de bază</p>	 <p>Fig. IV.11.34</p>
<p>7.</p>	<p><b>Diagonal mutat</b></p>  <p>Legătura de bază</p>	<p>Longitudinal</p>  <p>Fig. IV.11.35</p>
	<p><b>Diagonal mutat</b></p>  <p>Legătura de bază</p>	<p>Transversal</p>  <p>Fig. IV.11.36</p>

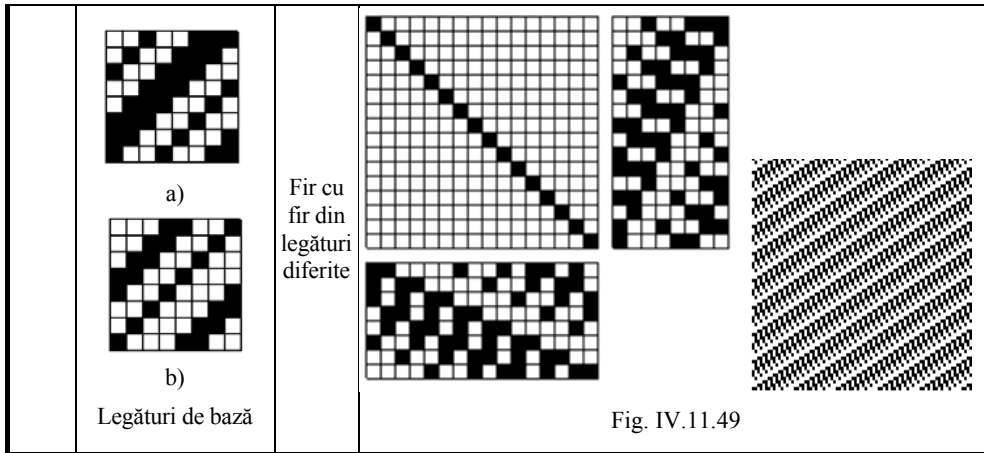
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8.	<p style="text-align: center;"> <b>Diagonal pieziș</b>                    Legătura de bază             </p>		<div style="display: flex; justify-content: space-around;">  </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;">   </div> <p style="text-align: center;">Fig. IV.11.38</p>
9.	<p style="text-align: center;"> <b>Diagonal culcat</b> </p>		<div style="display: flex; justify-content: space-around;">  </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;">   </div> <p style="text-align: center;">Fig. IV.11.39</p>

<p>10.</p>	<p><b>Diagonal ondulat</b></p>  <p>Legătura de bază</p>	<p>Cu aspect de valuri</p>	 <p>Fig. IV.11.40</p>
	<p>Legătura de bază</p> 	<p>Cu aspect de boltă</p>	 <p>Fig. IV.11.41</p>
<p>11.</p>	<p><b>Diagonal umbrit</b></p>  <p>Legătura de bază</p>	<p>Transversal</p>	 <p>Fig. IV.11.42</p>

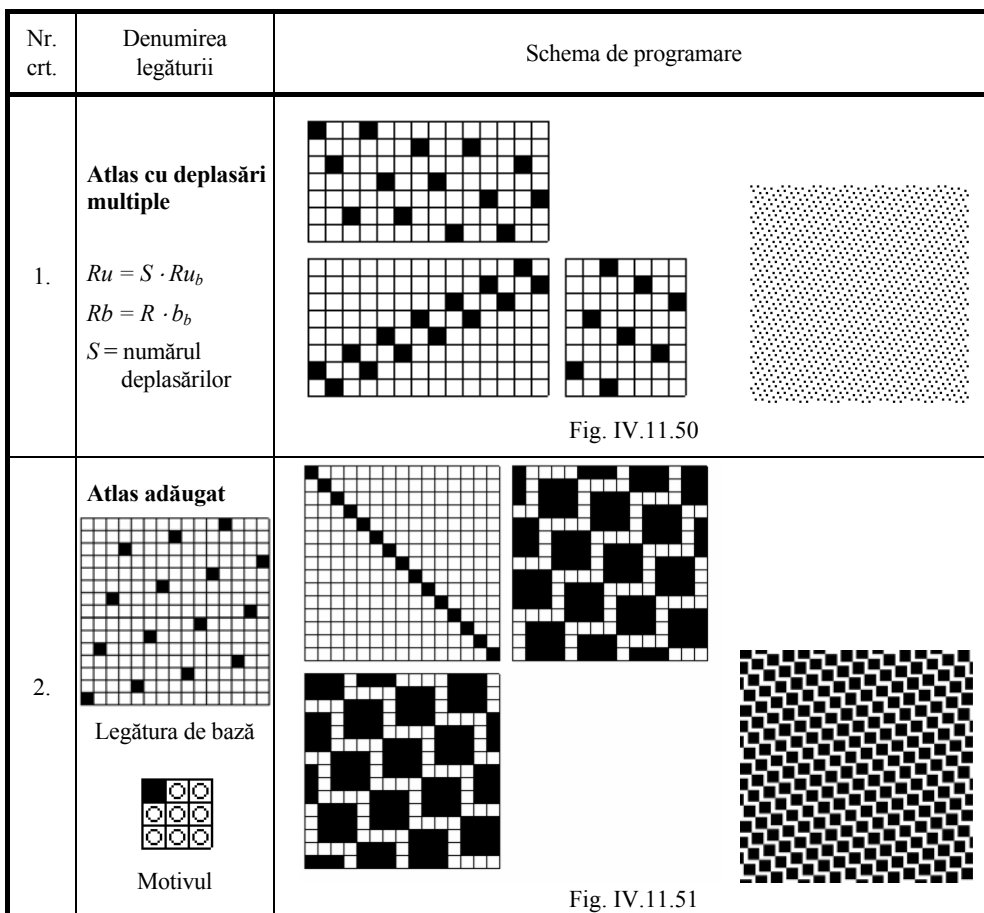


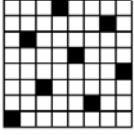
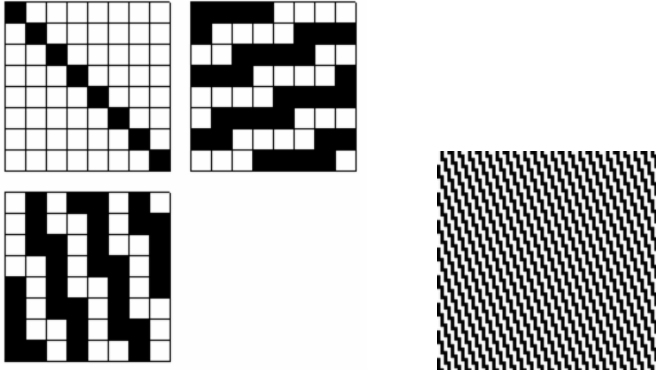
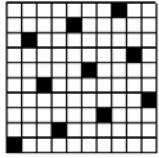
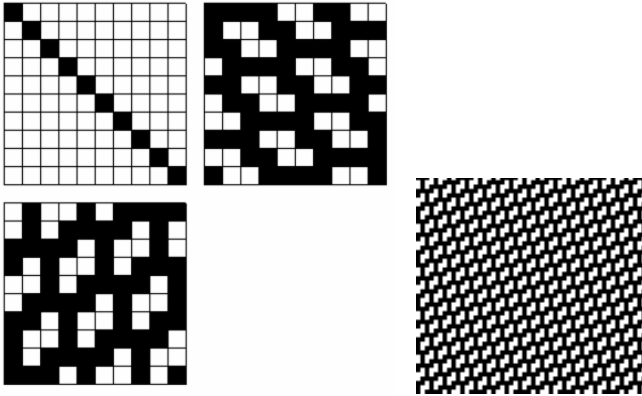
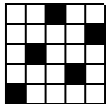
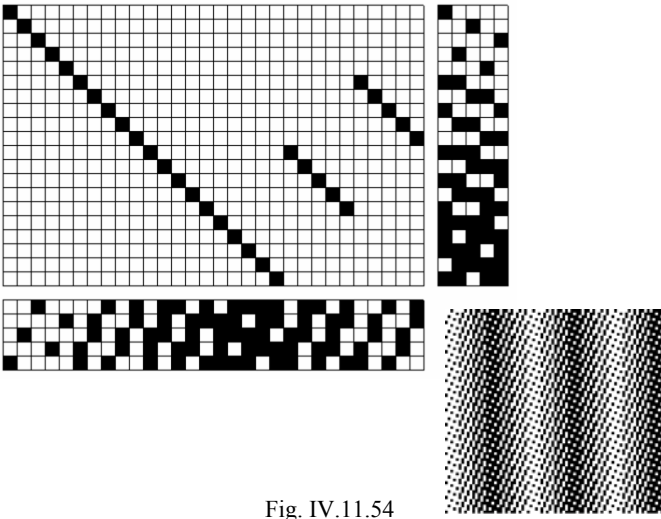
	<p>Legătura de bază</p> 	<p>Longitudinal</p>	 <p>Fig. IV.11.43</p>
<p>12.</p>	<p><b>Diagonal împodobit</b></p>  <p>Legătura de bază</p>		 <p>Fig. IV.11.44</p>
<p>13.</p>	<p><b>Diagonal amestecat</b></p>  <p>Legătura de bază</p>	<p>Pe grupe de fire de urzeală</p>	 <p>Fig. IV.11.45</p>

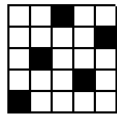
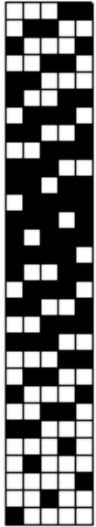

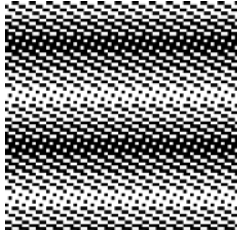
 <p>Legătura de bază</p>	<p>Pe grupe de fire de bătătură</p>	 <p>Fig. IV.11.46</p>
 <p>Legătura de bază</p>	<p>Bidirec- țional</p>	 <p>Fig. IV.11.47</p>
 <p>Legătura de bază</p>	<p>Fir cu fir din aceeași legătură</p>	 <p>Fig. IV.11.48</p>



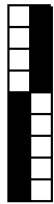
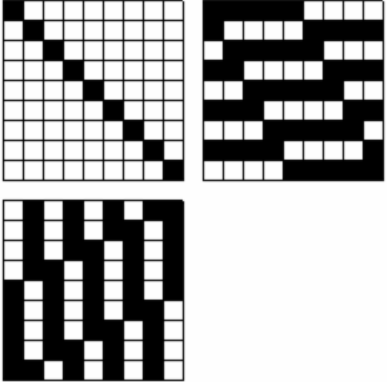
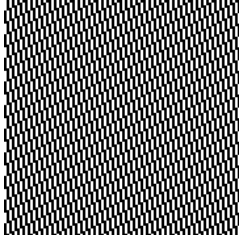
IV.11.2.3. Legături derivate din legătura atlas


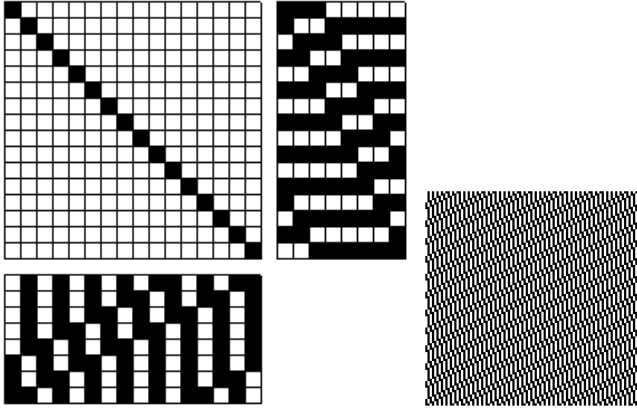

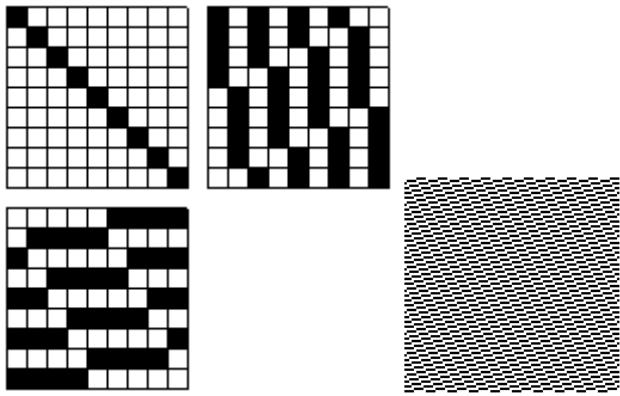

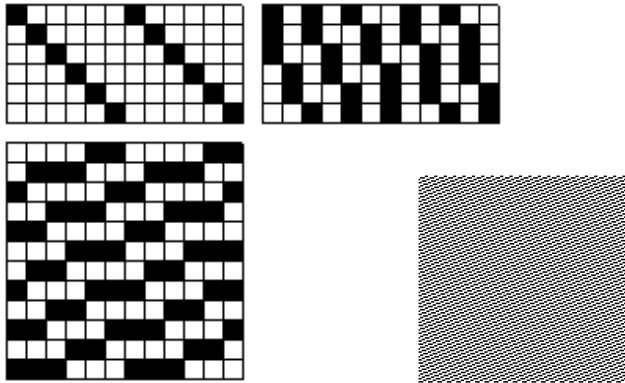


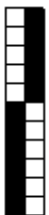
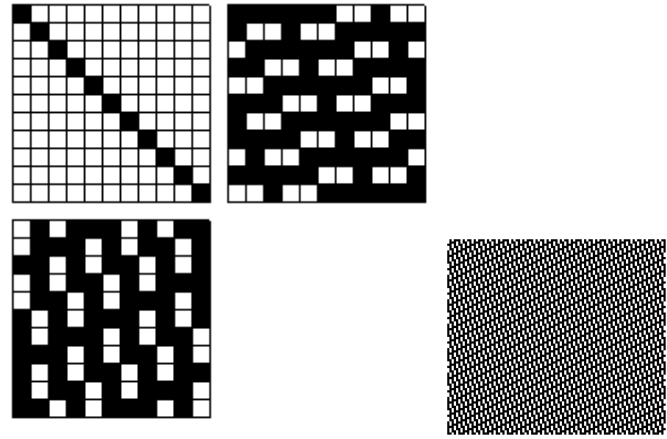

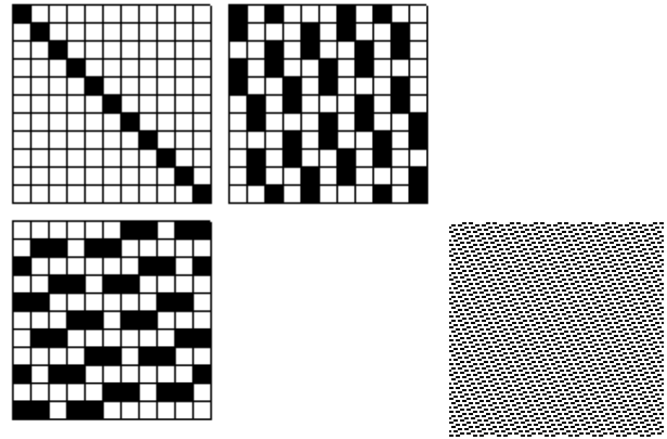
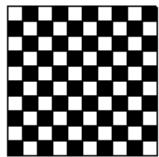
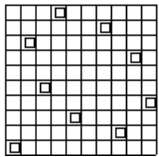
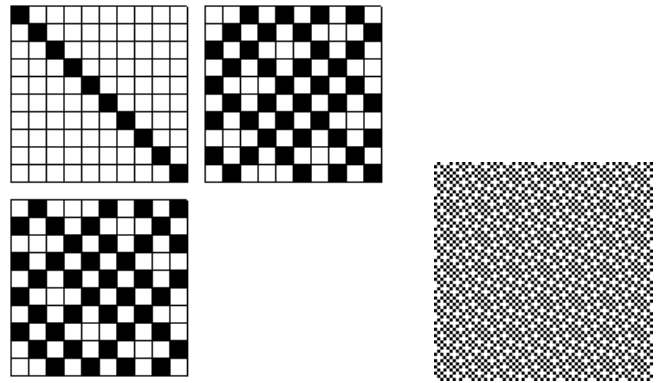
<p>3.</p>	<p><b>Atlas întărit</b></p>  <p>Legătura de bază</p>	 <p>Fig. IV.11.52</p>
<p>4.</p>	<p><b>Atlas compus</b></p>  <p>Legătura de bază</p>	 <p>Fig. IV.11.53</p>
<p>4.</p>	<p><b>Atlas umbrit</b></p>  <p>Legătura de bază</p>	<p>Transversal</p>  <p>Fig. IV.11.54</p>

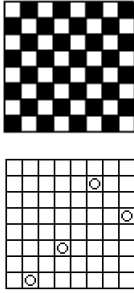
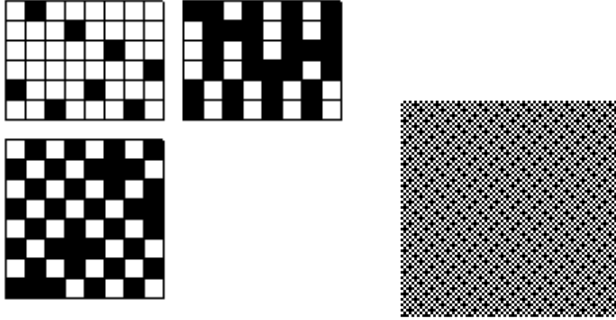
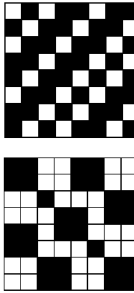
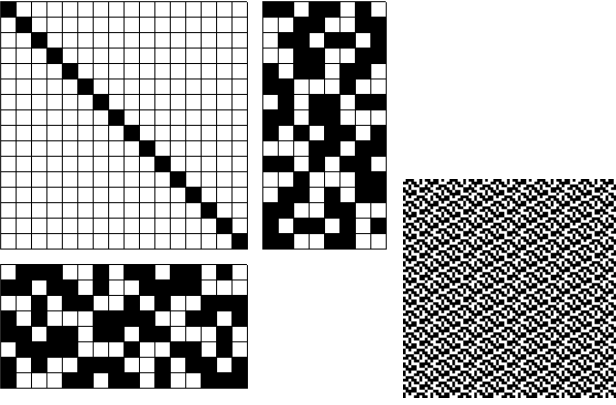
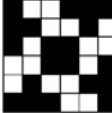
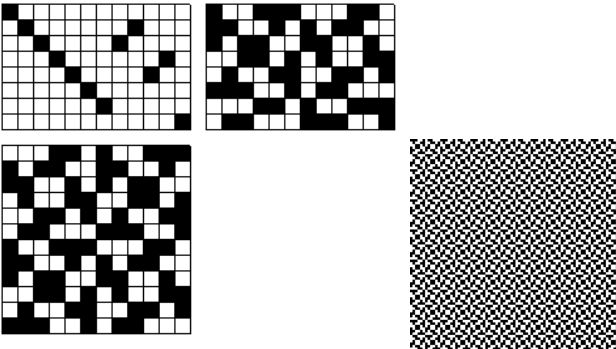
	 <p>Legătura de bază</p>	<p>Longitudinal</p>    <p>Fig. IV.11.55</p>
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### IV.11.3. Legături combinate

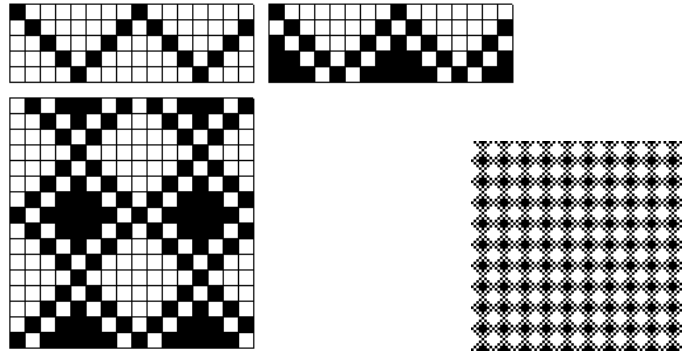
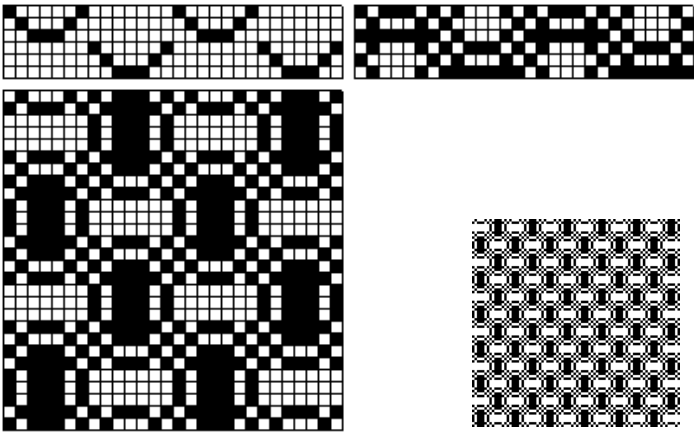
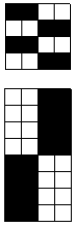
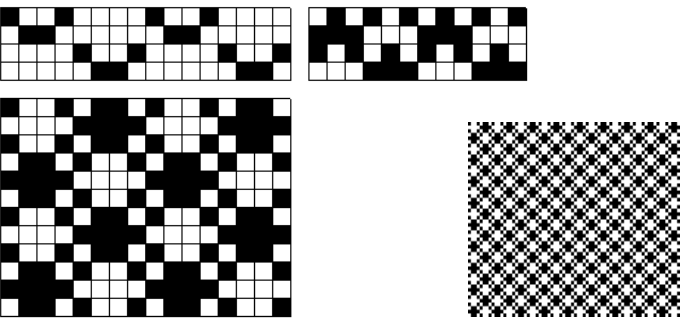
Nr. crt.	Denumirea legăturii	Schema de programare și simularea
1.	<p>Adria</p>  <p>Legătura de bază</p>	<p>De urzeală Cu dungi egale</p>   <p>Fig. IV.11.56</p>

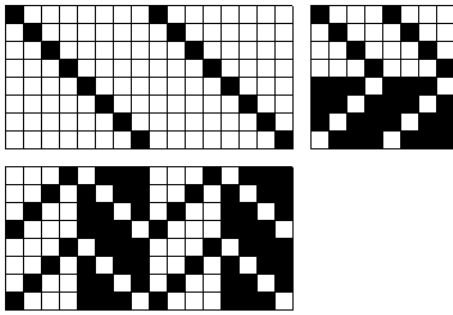
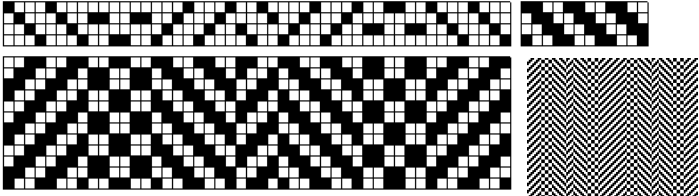
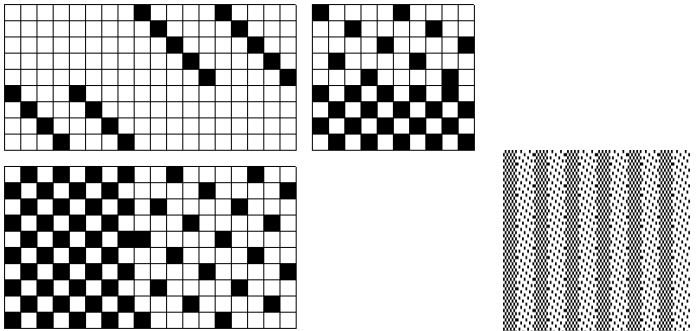
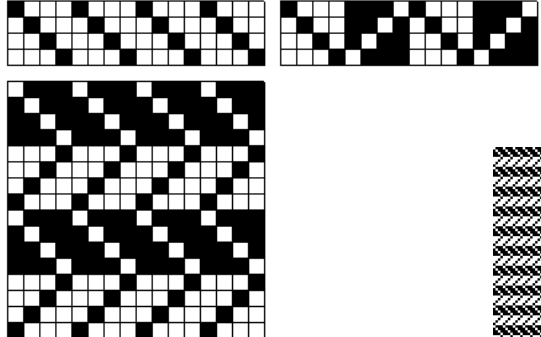
<p><b>Adria</b></p>  <p>Legătura de bază</p>	<p>De urzeală</p> <p>Cu dungi neegale</p>	 <p>Fig. IV.11.57</p>
<p><b>Adria</b></p>  <p>Legătura de bază</p>	<p>De bătătură</p> <p>Cu dungi egale</p>	 <p>Fig. IV.11.58</p>
<p><b>Adria</b></p>  <p>Legătura de bază</p>	<p>Cu dungi neegale</p>	 <p>Fig. IV.11.59</p>

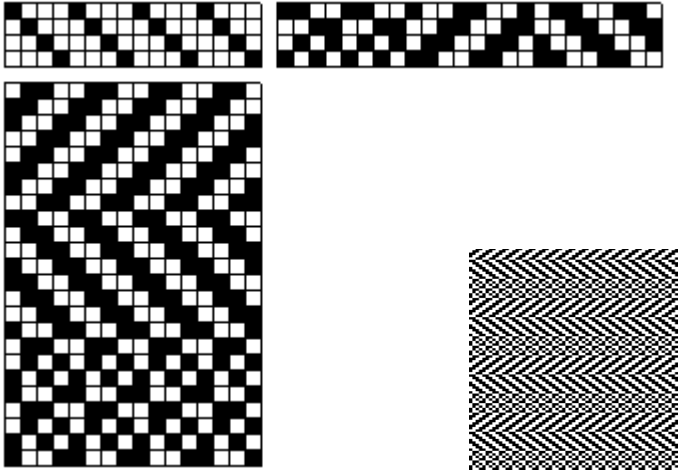
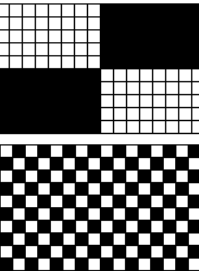
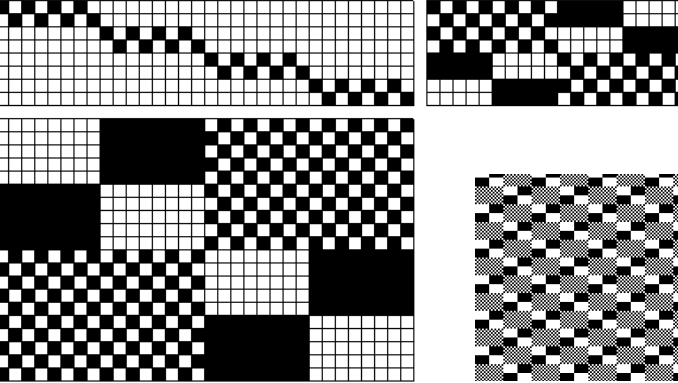
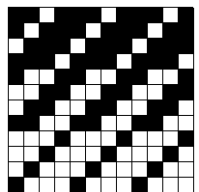
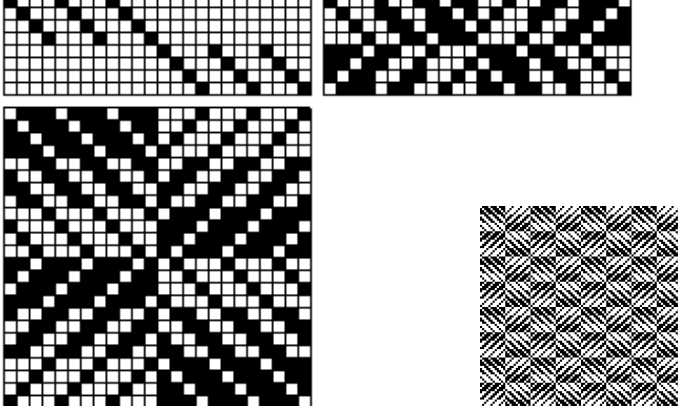
1	2	3
	<p><b>Adria întărit</b></p>  <p>Legătura de bază</p>	<p>De urzeală</p>  <p>Fig. IV.11.60</p>
	<p>Legătura de bază</p>  <p>Legătura de bază</p>	<p>De bățătură</p>  <p>Fig. IV.11.61</p>
<p>2.</p>	<p><b>Crep</b></p>   <p>Legături de bază</p>	<p>Obținut prin suspendarea de puncte de legare dintr-o legătură (pânză)</p>  <p>Fig. IV.11.62</p>

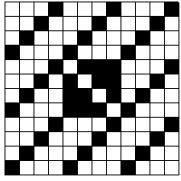
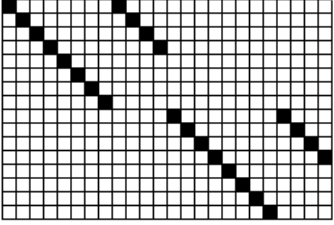
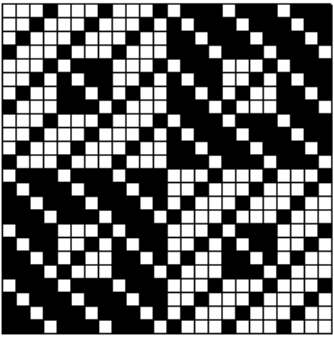
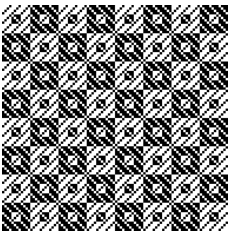

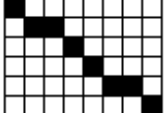


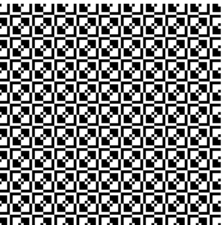
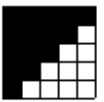
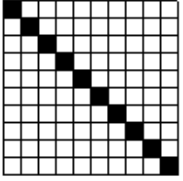
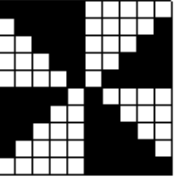
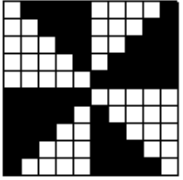
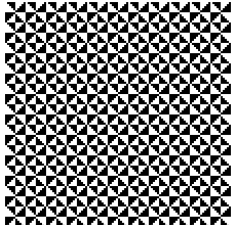
1	2	3
	 <p>Legături de bază</p> <p>Crep obținut prin adăugarea de puncte de legare la o legătură (pînză)</p>	 <p>Fig. IV.11.63</p>
	 <p>Legături de bază</p> <p>Crep obținut prin amestecarea fir cu fir a două legături</p>	 <p>Fig. IV.11.64</p>
	 <p>Legătura de bază</p> <p>Crep obținut prin rotirea și negativarea unui motiv în sectoare succesive</p>	 <p>Fig. IV.11.65</p>


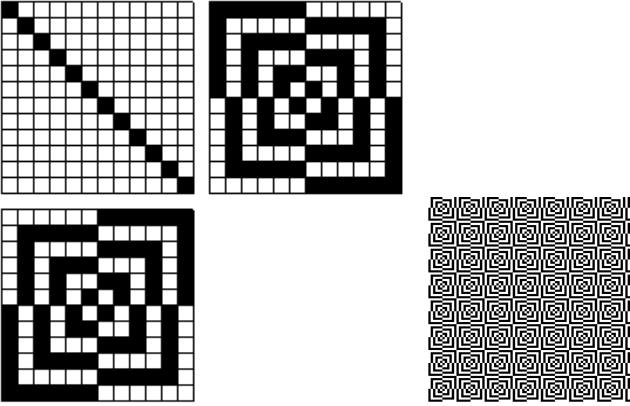

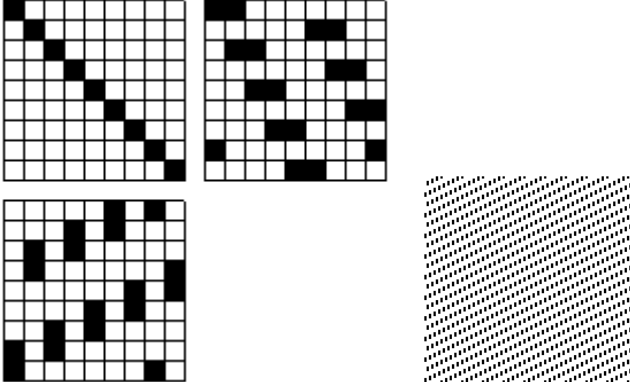

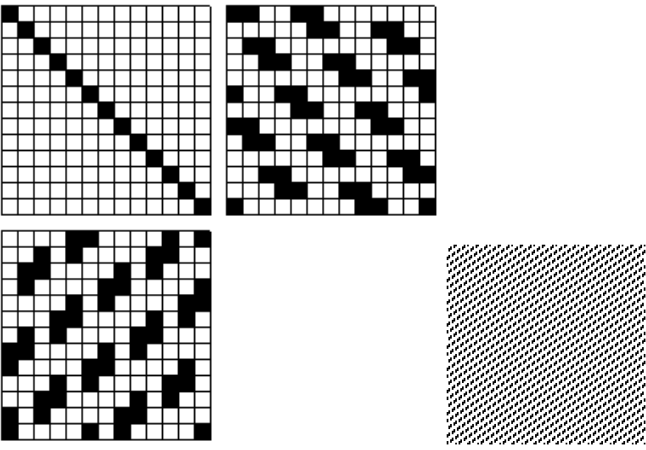


1	2	3
3.	<p><b>Figure</b></p>	 <p>Fig. IV.11.66</p>  <p>Fig. IV.11.67</p>
4.	<p><b>Ajour</b></p>  <p>Legături de bază</p>	 <p>Fig. IV.11.68</p>

1	2	3
5.	Legături cu dungi	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Longitudinale</p>  <p>Fig. IV.11.69</p>  <p>Fig. IV.11.70</p>  <p>Fig. IV.11.71</p>
		<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Transversale</p>  <p>Fig. IV.11.72</p>

1	2	3
	<p>Legături cu dungi</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Transversale</p>	 <p>Fig. IV.11.73</p>
6.	<p>Legături în caro</p>  <p>Legături de bază</p>	 <p>Fig. IV.11.74</p>
	<p>Legătura de bază</p>  <p>Legătura de bază</p>	 <p>Fig. IV.11.75</p>

1	2	3
	<p><b>Legături în caro</b></p>  <p>Legătura de bază</p>	   <p>Fig. IV.11.76</p>
7.	<p><b>Carouri mici (Mille careaux)</b></p>  <p>Motivul de bază</p>	    <p>Fig. IV.11.77</p>
8.	<p><b>Gheață</b></p>  <p>Motivul de bază</p>	    <p>Fig. IV.11.78</p>

1	2	3
9.	<p><b>Cauciuc</b></p>  <p>Motivul de bază</p>	 <p>Fig. IV.11.79</p>
10.	<p><b>Reform</b></p>  <p>Legătura de bază</p>	<p>Succe- siunea legării 1:1</p>  <p>Fig. IV.11.80</p>
	<p>Legătura de bază</p>  <p>Legătura de bază</p>	<p>Succe- siunea legării 2:1</p>  <p>Fig. IV.11.81</p>