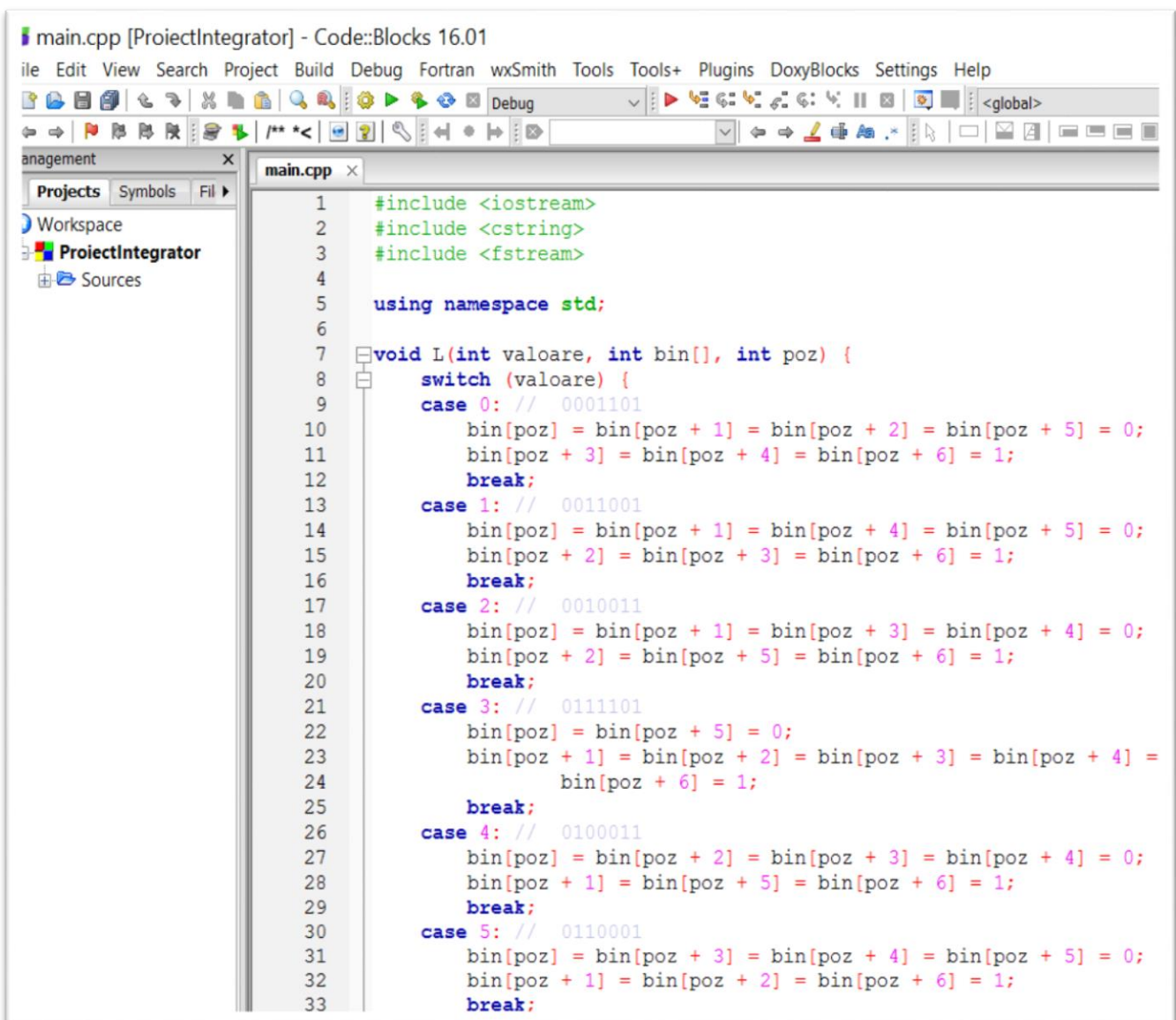


Proiect integrator 1 (anul 1 - semestrul 1)

În acest prim proiect am realizat o aplicație ce generează coduri de bare în format EAN 13.

Această aplicație s-a realizat în limbajul C++, mai jos am atasat capturi de ecran ce demonstrează funcționalitatea programului.



The screenshot displays the Code::Blocks IDE interface. The main window shows a C++ source file named `main.cpp` with the following code:

```
1  #include <iostream>
2  #include <cstring>
3  #include <fstream>
4
5  using namespace std;
6
7  void L(int valoare, int bin[], int poz) {
8      switch (valoare) {
9          case 0: // 0001101
10         bin[poz] = bin[poz + 1] = bin[poz + 2] = bin[poz + 5] = 0;
11         bin[poz + 3] = bin[poz + 4] = bin[poz + 6] = 1;
12         break;
13         case 1: // 0011001
14         bin[poz] = bin[poz + 1] = bin[poz + 4] = bin[poz + 5] = 0;
15         bin[poz + 2] = bin[poz + 3] = bin[poz + 6] = 1;
16         break;
17         case 2: // 0010011
18         bin[poz] = bin[poz + 1] = bin[poz + 3] = bin[poz + 4] = 0;
19         bin[poz + 2] = bin[poz + 5] = bin[poz + 6] = 1;
20         break;
21         case 3: // 0111101
22         bin[poz] = bin[poz + 5] = 0;
23         bin[poz + 1] = bin[poz + 2] = bin[poz + 3] = bin[poz + 4] =
24             bin[poz + 6] = 1;
25         break;
26         case 4: // 0100011
27         bin[poz] = bin[poz + 2] = bin[poz + 3] = bin[poz + 4] = 0;
28         bin[poz + 1] = bin[poz + 5] = bin[poz + 6] = 1;
29         break;
30         case 5: // 0110001
31         bin[poz] = bin[poz + 3] = bin[poz + 4] = bin[poz + 5] = 0;
32         bin[poz + 1] = bin[poz + 2] = bin[poz + 6] = 1;
33         break;
```

```

main.cpp [ProjectIntegrator] - Code::Blocks 16.01
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Debug <global>
ProjectIntegrator
Workspace
ProjectIntegrator
Sources

31      bin[poz] = bin[poz + 3] = bin[poz + 4] = bin[poz + 5] = 0;
32      bin[poz + 1] = bin[poz + 2] = bin[poz + 6] = 1;
33      break;
34      case 6: // 0101111
35          bin[poz] = bin[poz + 2] = 0;
36          bin[poz + 1] = bin[poz + 3] = bin[poz + 4] = bin[poz + 5] =
37              bin[poz + 6] = 1;
38          break;
39      case 7: // 0111011
40          bin[poz] = bin[poz + 4] = 0;
41          bin[poz + 1] = bin[poz + 2] = bin[poz + 3] = bin[poz + 5] =
42              bin[poz + 6] = 1;
43          break;
44      case 8: // 0110111
45          bin[poz] = bin[poz + 3] = 0;
46          bin[poz + 1] = bin[poz + 2] = bin[poz + 4] = bin[poz + 5] =
47              bin[poz + 6] = 1;
48          break;
49      case 9: // 0001011
50          bin[poz] = bin[poz + 1] = bin[poz + 2] = bin[poz + 4] = 0;
51          bin[poz + 3] = bin[poz + 5] = bin[poz + 6] = 1;
52          break;
53      }
54  }
55  void G(int valoare, int bin[], int poz) {
56      switch (valoare) {
57          case 0: // 0100111
58              bin[poz] = bin[poz + 2] = bin[poz + 3] = 0;
59              bin[poz + 1] = bin[poz + 4] = bin[poz + 5] = bin[poz + 6] = 1;
60              break;
61          case 1: // 0110011
62              bin[poz] = bin[poz + 3] = bin[poz + 4] = 0;
63              bin[poz + 1] = bin[poz + 2] = bin[poz + 5] = bin[poz + 6] = 1;
64              break;

```

```

64 break;
65 case 2: // 0011011
66 bin[poz] = bin[poz + 1] = bin[poz + 4] = 0;
67 bin[poz + 2] = bin[poz + 3] = bin[poz + 5] = bin[poz + 6] = 1;
68 break;
69 case 3: // 0100001
70 bin[poz] = bin[poz + 2] = bin[poz + 3] = bin[poz + 4] = bin[poz + 5] =
71 0;
72 bin[poz + 1] = bin[poz + 6] = 1;
73 break;
74 case 4: // 0011101
75 bin[poz] = bin[poz + 1] = bin[poz + 5] = 0;
76 bin[poz + 2] = bin[poz + 3] = bin[poz + 4] = bin[poz + 6] = 1;
77 break;
78 case 5: // 0111001
79 bin[poz] = bin[poz + 4] = bin[poz + 5] = 0;
80 bin[poz + 1] = bin[poz + 2] = bin[poz + 3] = bin[poz + 6] = 1;
81 break;
82 case 6: // 0000101
83 bin[poz] = bin[poz + 1] = bin[poz + 2] = bin[poz + 3] = bin[poz + 5] =
84 0;
85 bin[poz + 4] = bin[poz + 6] = 1;
86 break;
87 case 7: // 0010001
88 bin[poz] = bin[poz + 1] = bin[poz + 3] = bin[poz + 4] = bin[poz + 5] =
89 0;
90 bin[poz + 2] = bin[poz + 6] = 1;
91 break;
92 case 8: // 0001001
93 bin[poz] = bin[poz + 1] = bin[poz + 2] = bin[poz + 4] = bin[poz + 5] =
94 0;
95 bin[poz + 3] = bin[poz + 6] = 1;
96 break;

```

```

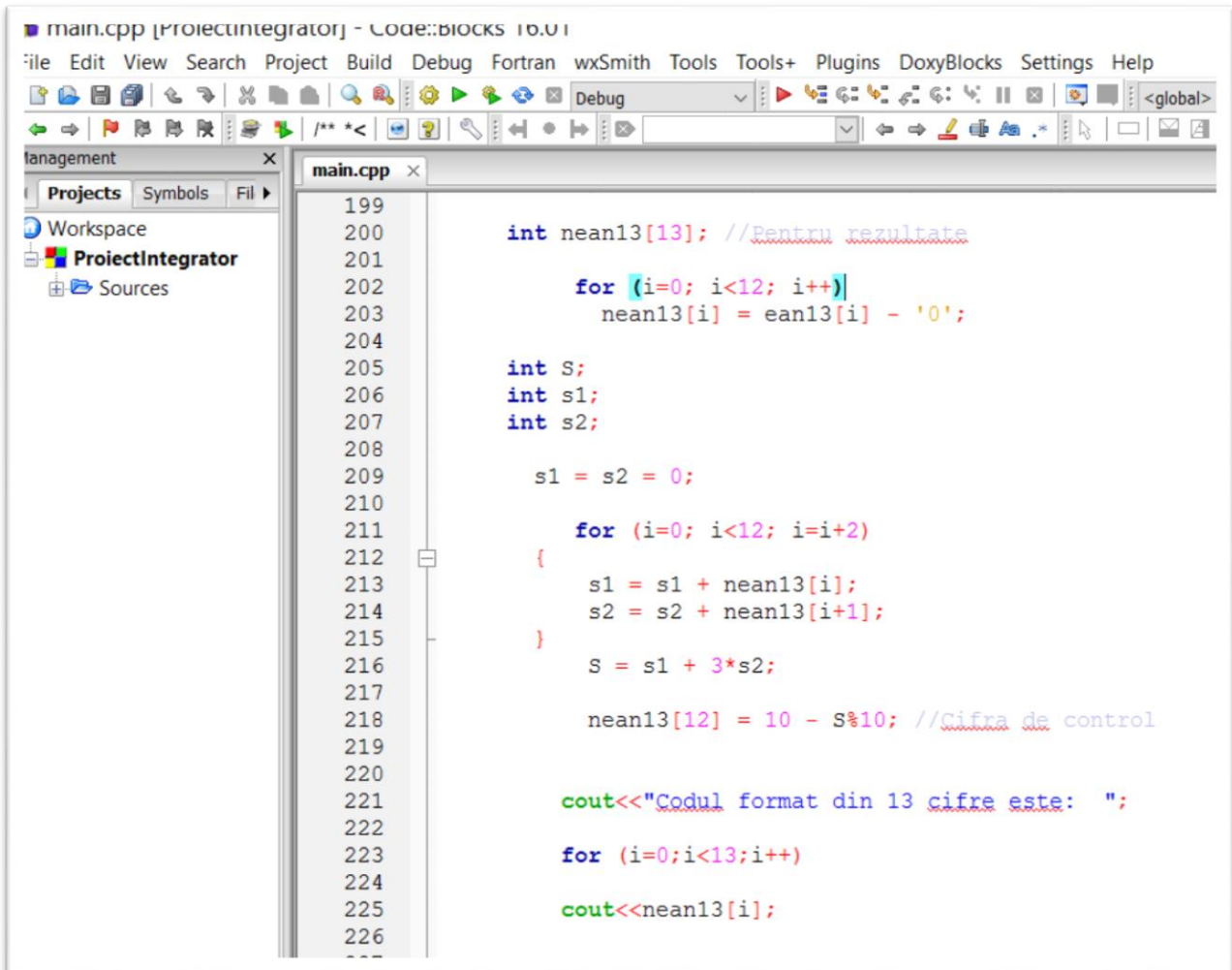
144         break;
145     case 9: // 1110100
146         bin[poz + 3] = bin[poz + 5] = bin[poz + 6] = 0;
147         bin[poz] = bin[poz + 1] = bin[poz + 2] = bin[poz + 4] = 1;
148         break;
149     }
150 }
151 int main()
152 {
153     // imi voi declara sirul de caractere si denumirea produsului
154
155     char denumire[21];
156     cout<<"Introduceti denumirea produsului(max.20 caractere): ";
157     cin>>denumire;
158     char codDat[10];
159     cout<<"Introduceti codul produsului(max.9 cifre, fara spatii): ";
160     cin>>codDat;
161
162     int lungime = strlen(codDat); //Verificare:Numar toate caracterele bune folosind un contor
163     int i = 0;
164
165     while ((i != lungime) || (lungime > 9))
166     {
167         i=0;
168         while(codDat[i] >= '0' && codDat[i] <= '9')
169             i++;
170         if ((i != lungime) || (lungime >9))
171         {
172             cout <<"Cod eronat: " << codDat << endl;
173             cout<<"Introduceti codul produsului(max.9 cifre, fara spatii): ";
174             cin>>codDat;
175             lungime = strlen(codDat);
176         }
177     }

```

```

172         if ((i != lungime) || (lungime > 9))
173         {
174             cout << "Cod eronat: " << codDat << endl;
175             cout << "Introduceti codul produsului (max.9 cifre, fara spatii): ";
176             cin >> codDat;
177             lungime = strlen(codDat);
178         }
179     }
180
181     char sirSapte [9] = ""; // sirul initial este vid
182     if (lungime < 9 )
183     {
184         int j;
185         for (j = 0; j < 9 - lungime; j++)
186             sirSapte[j] = '7'; // Limitez sirSapte la dreapta adaugandu-i un caracter '\0'
187         sirSapte[j] = '\0';
188     }
189     char codRo[] = "594";
190     char ean13[13]; //13 caractere, 12+1
191     strcpy (ean13, codRo);
192     strcat (ean13, sirSapte);
193     strcat (ean13, codDat); //Verific pana aici//
194     cout << "Primele 12 caractere sunt: " << ean13 << endl;
195
196     //convertim caracterele in valori numerice intregi (int)
197     int nean13[13]; //Pentru rezultate
198     for (i=0; i<12; i++)
199         nean13[i] = ean13[i] - '0';
200
201     numeric, numerics, numeric e, cerium

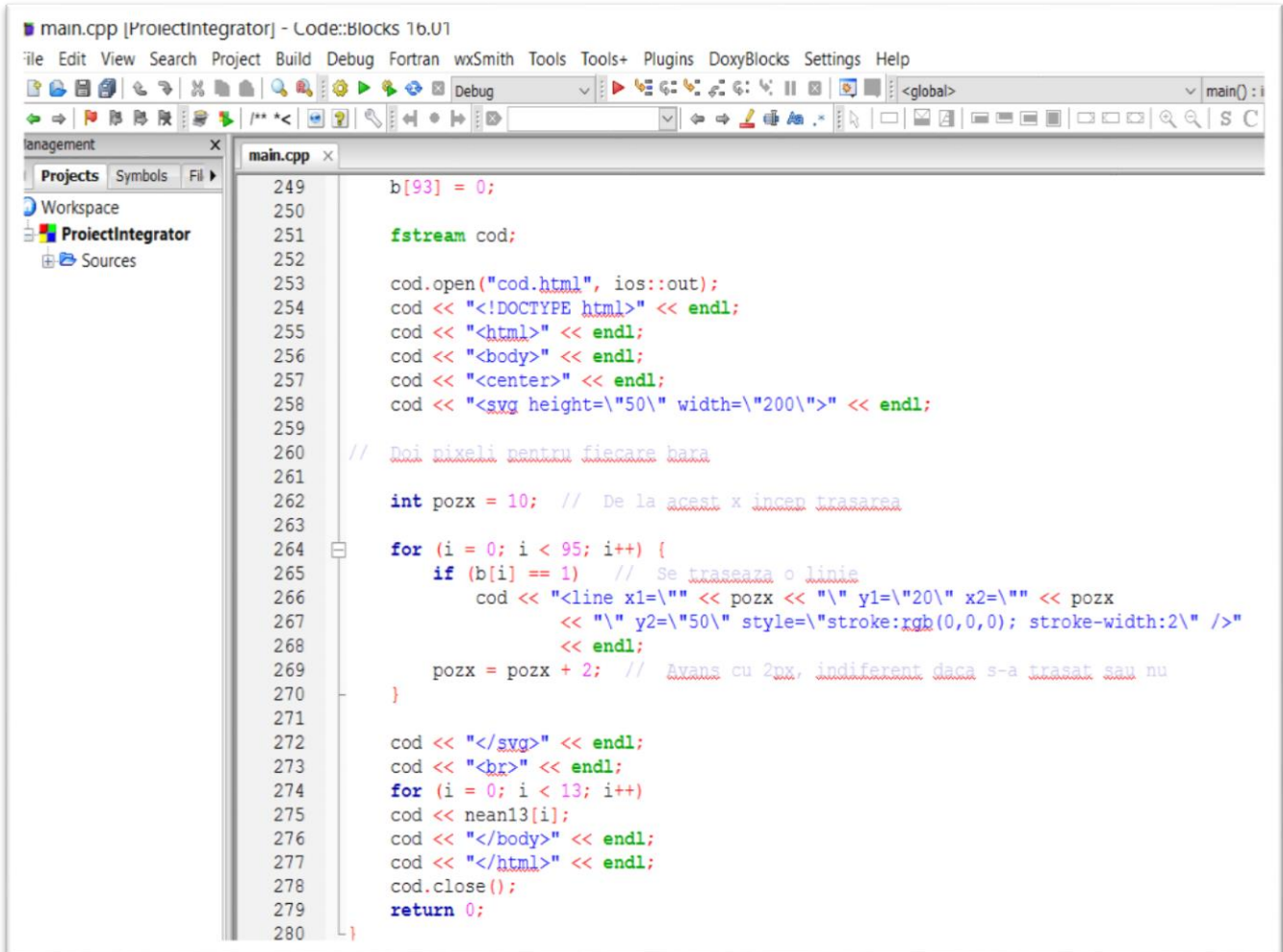
```



```
199
200     int nean13[13]; //Pentru rezultate
201
202     for (i=0; i<12; i++)
203         nean13[i] = ean13[i] - '0';
204
205     int S;
206     int s1;
207     int s2;
208
209     s1 = s2 = 0;
210
211     for (i=0; i<12; i=i+2)
212     {
213         s1 = s1 + nean13[i];
214         s2 = s2 + nean13[i+1];
215     }
216     S = s1 + 3*s2;
217
218     nean13[12] = 10 - S%10; //Cifra de control
219
220
221     cout<<"Codul format din 13 cifre este: ";
222
223     for (i=0; i<13; i++)
224
225         cout<<nean13[i];
226
```



```
226
227
228     int b[95];
229
230     // Se modifica incanutul: 101
231
232     b[0] = b[2] = 1;
233     b[1] = 0;
234
235     L(nean13[1], b, 3);
236     G(nean13[2], b, 10);
237     G(nean13[3], b, 17);
238     L(nean13[4], b, 24);
239     L(nean13[5], b, 31);
240     G(nean13[6], b, 38);
241
242     b[45] = b[47] = b[49] = 0;
243     b[46] = b[48] = 1;
244
245     for (int i = 0; i < 6; i++)
246         R(nean13[7 + i], b, 50 + i * 7);
247
248     b[92] = b[94] = 1;
249     b[93] = 0;
250
```



```

main.cpp [ProiectIntegrator] - Code::Blocks 16.01
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Debug
main() : i
S C

main.cpp x
249     b[93] = 0;
250
251     ofstream cod;
252
253     cod.open("cod.html", ios::out);
254     cod << "<!DOCTYPE html>" << endl;
255     cod << "<html>" << endl;
256     cod << "<body>" << endl;
257     cod << "<center>" << endl;
258     cod << "<svg height=\"50\" width=\"200\">" << endl;
259
260     // Doi pixeli pentru fiecare bara
261
262     int pozx = 10; // De la acest x incen trasarea
263
264     for (i = 0; i < 95; i++) {
265         if (b[i] == 1) // Se traseaza o linie
266             cod << "<line x1=\"\" << pozx << "\" y1=\"20\" x2=\"\" << pozx
267                 << "\" y2=\"50\" style=\"stroke:rgb(0,0,0); stroke-width:2\" />"
268                 << endl;
269         pozx = pozx + 2; // Avans cu 2px, indiferent daca s-a trasat sau nu
270     }
271
272     cod << "</svg>" << endl;
273     cod << "<br>" << endl;
274     for (i = 0; i < 13; i++)
275         cod << nean13[i];
276     cod << "</body>" << endl;
277     cod << "</html>" << endl;
278     cod.close();
279     return 0;
280 }

```



```
E:\proiecte2016\ProiectIntegrator\bin\Debug\ProiectIntegrator.exe
introduceti denumirea produsului(max.20 caractere): Carte
introduceti codul produsului(max.9 cifre, fara spatii): 12341234
primele 12 caractere sunt: 594712341234
codul format din 13 cifre este: 5947123412349
process returned 0 (0x0)   execution time : 18.794 s
press any key to continue.
```



```
E:\proiecte2016\ProiectIntegrator\bin\Debug\ProiectIntegrator.exe
Introduceti denumirea produsului(max.20 caractere): Creion
Introduceti codul produsului(max.9 cifre, fara spatii): 2121212
Primele 12 caractere sunt: 594772121212
Codul format din 13 cifre este: 5947721212129
Process returned 0 (0x0)   execution time : 15.472 s
Press any key to continue.
```

