```
 1  using System;
 2  using System.Collections.Generic;
 3  using System.Linq;
 4  using System.Text;
 5  using System.Threading.Tasks;
 6
 7  namespace AfinicAlgoritm
 8  {
 9      class Program
10      {
11          static void Main(string[] args)
12          {
13              Console.Write("Podaj a= ");
14              int a = int.Parse(Console.ReadLine());
15              Console.Write("Podaj b= ");
16              int b = int.Parse(Console.ReadLine());
17
18              Console.WriteLine("Podaj slowo kluczowe:");
19              string KeyWord = Console.ReadLine();
20              KeyWord = KeyWord.ToUpper();
21              char[] CharTab = new char[KeyWord.Length];
22              CharTab = KeyWord.ToCharArray();
23
24              int[] intTab = new int[CharTab.Length];
25
26              for (int i = 0; i < CharTab.Length; i++)
27              {
28                  intTab[i] = ((int)CharTab[i]) - 65;
29              }
30
31              int[] intAfterTranslation = new int[intTab.Length];
32
33              Console.WriteLine("Podaj mod: ");
34              int mod = int.Parse(Console.ReadLine());
35
36              for (int i = 0; i < CharTab.Length; i++)
37              {
38                  intAfterTranslation[i] = (a*intTab[i]+b)%mod;
39              }
40
41              char[] charAfterTranslation = new char
                  [intAfterTranslation.Length];
42
43              for (int i = 0; i < CharTab.Length; i++)
44              {
45                  charAfterTranslation[i] = (char)(intAfterTranslation[i]+65);
46              }
47
48              Console.WriteLine("\n Po zaszyfrowaniu");
49              Console.WriteLine(charAfterTranslation);
50
51              int invertMod=0;
52
53              for (int i = 1; i < mod+1; i++)
54              {
55                  int x = (i * a) % 26;
```

```
56                  if ((i*a)%mod==1)
57                  {
58                      invertMod = i;
59                  }
60              }
61
62              if (invertMod==0)
63              {
64                  Console.WriteLine("\nNie istnieje odwrotna do A, deszyfrowanie
                       zakonczone niepowodzeniem");
65                  Console.WriteLine("Kliknij dowolny klawisz aby zamknąć
                      program");
66                  Console.ReadKey();
67                  return;
68              }
69
70
71              int[] intDecripted = new int[intAfterTranslation.Length];
72
73              for (int i = 0; i < intDecripted.Length; i++)
74              {
75                  int temp = invertMod * (intAfterTranslation[i] - b);
76                  intDecripted[i] = temp%mod;
77              }
78
79              for (int i = 0; i < intDecripted.Length; i++)
80              {
81                  if (intDecripted[i]<0)
82                  {
83                      intDecripted[i] += mod;
84                  }
85              }
86
87              char[] charAfterDescription = new char
                    [intAfterTranslation.Length];
88
89              for (int i = 0; i < CharTab.Length; i++)
90              {
91                  charAfterDescription[i] = (char)(intDecripted[i] + 65);
92              }
93
94              Console.WriteLine("\n Kod deszyfrowany \n");
95              Console.WriteLine(charAfterDescription);
96
97
98
99          }
100
101
102     }
103 }
104
```