

# PCP — Lecture 12

Fall 2020 October 23, 2020

## 1 While Loop With Complex Conditions

```
int c;
string message;
int count;
bool res;

Console.WriteLine("Please, enter an integer.");
message = Console.ReadLine();
res = int.TryParse(message, out c);
count = 0; // The user has 3 tries: count will be 0, 1, 2, and then we default.
while (!res && count < 3)
{
    count++;
    if (count == 3)
    {
        c = 1;
        Console.WriteLine("I'm using the default value 1.");
    }
    else
    {
        Console.WriteLine("The value entered was not an integer.");
        Console.WriteLine("Please, enter an integer.");
        message = Console.ReadLine();
        res = int.TryParse(message, out c);
    }
}
Console.WriteLine("The value is: " + c);
```

## 2 Do ... while Loops

```
do
{
    <statement block>
} while (<condition>);
```

```
string ent = "";
int b;
int sum = 0;
bool flag;
do
{
```

```

    Console.WriteLine("Enter an integer, or anything to quit.");
    ent = Console.ReadLine();
    flag = int.TryParse(ent, out b);
    sum += b;
} while (flag);

```

### 3 Do ... while with complex condition

```

int age;
string answer;

do
{
    Console.Write("Please, enter your age.\n");
    answer = Console.ReadLine();
} while (! int.TryParse(answer, out age) || age < 0);

```

### 4 Putting it all together!

```

1  using System;
2
3  class Loan
4  {
5      private string account;
6      private char type;
7      private int cscore;
8      private decimal amount;
9      private decimal rate;
10
11     public Loan()
12     {
13         account = "Unknown";
14         type = 'o';
15         cscore = -1;
16         amount = -1;
17         rate = -1;
18     }
19
20     public Loan(string nameP, char typeP, int cscoreP, decimal needP, decimal downP)
21     {
22         account = nameP;
23         type = typeP;
24         cscore = cscoreP;
25         if (cscore < 300)
26         {
27             Console.WriteLine("Sorry, we can't accept your application");

```

```

28         amount = -1;
29         rate = -1;
30     }
31     else
32     {
33         amount = needP - downP;
34
35         switch (type)
36         {
37             case ('a'):
38                 rate = .05M;
39                 break;
40
41             case ('h'):
42                 if (cscore > 600 && amount < 1000000M)
43                     rate = .03M;
44                 else
45                     rate = .04M;
46                 break;
47             case ('o'):
48                 if (cscore > 650 || amount < 10000M)
49                     rate = .07M;
50                 else
51                     rate = .09M;
52                 break;
53         }
54     }
55 }
56
57 }
58 public override string ToString()
59 {
60     string typeName = "";
61     switch (type)
62     {
63         case ('a'):
64             typeName = "an auto";
65             break;
66
67         case ('h'):
68             typeName = "a house";
69             break;
70         case ('o'):
71             typeName = "another reason";
72             break;
73     }
74 }
75
76 return "Dear " + account + "$", you borrowed {amount:C} at {rate:P} for "

```

```

77         + typeName + ".";
78     }
79 }

1  using System;
2  class Program
3  {
4      static void Main()
5      {
6
7          Console.WriteLine("What is your name?");
8          string name = Console.ReadLine();
9
10         Console.WriteLine("Do you want a loan for an Auto (A, a), a House (H, h), or for
↪ some Other (O, o) reason?");
11         char type = Console.ReadKey().KeyChar; ;
12         Console.WriteLine();
13
14         string typeOfLoan;
15
16         if (type == 'A' || type == 'a')
17         {
18             type = 'a';
19             typeOfLoan = "an auto";
20         }
21         else if (type == 'H' || type == 'h')
22         {
23             type = 'h';
24             typeOfLoan = "a house";
25         }
26         else
27         {
28             type = 'o';
29             typeOfLoan = "some other reason";
30         }
31
32         Console.WriteLine($"You need money for {typeOfLoan}, great.\nWhat is your current
↪ credit score?");
33         int cscore = int.Parse(Console.ReadLine());
34
35         Console.WriteLine("How much do you need, total?");
36         decimal need = decimal.Parse(Console.ReadLine());
37
38         Console.WriteLine("What is your down paiement?");
39         decimal down = decimal.Parse(Console.ReadLine());
40
41         Loan myLoan = new Loan(name, type, cscore, need, down);
42         Console.WriteLine(myLoan);
43     }

```

44

45 }