

OOP – Lesson 3

Reading:

Var Name =Console.ReadLine();

EX:

```
static void Main(string[] args)
{
    string x;
    x = Console.ReadLine();
    Console.WriteLine("you entered : {0}", x);
}
```

Integer Var =Type.Parse (String Var);

EX:

```
static void Main(string[] args)
{
    string x;
    int y;
    x = Console.ReadLine();
    y = int.Parse(x);
    Console.WriteLine("Square Number :{0}", y*y );
}
```

Use Convert

```
static void Main(string[] args)
{
    string x;
    int y;
    x = Console.ReadLine();
    y = Convert.ToInt16(x );
    Console.WriteLine("Square Number :{0}", y*y );
}
```

Or

```
static void Main(string[] args)
{
    int y;
    y = Convert.ToInt16(Console.ReadLine());
    Console.WriteLine("Square Number :{0}", y*y );
}
```

Control Statement

1. Selection Statement:

1.1. IF Statement:

```
if (<test>)  
    <code executed if <test> is true>;
```

Or

```
if (<test>)  
    <code executed if <test> is true>;  
  
else  
    <code executed if <test> is false>;
```

Or

```
if (<test>)  
{  
    <code executed if <test> is true>;  
}  
  
else  
{  
    <code executed if <test> is false>;  
}
```

Ex:

```
static void Main(string[] args)  
{  
    string resultstring;  
    int myinteger;  
    myinteger = Convert.ToInt16(Console.ReadLine());  
    if (myinteger < 10)  
        resultstring = "less than 10";  
    else  
        resultstring = "greater than or equal to 10";  
    Console.WriteLine(resultstring);  
}
```

Ex:

```
static void Main(string[] args)
{
    string comparison;
    Console.WriteLine("enter a number:");
    double var1 = Convert.ToDouble(Console.ReadLine());
    Console.WriteLine("enter another number:");
    double var2 = Convert.ToDouble(Console.ReadLine());
    if (var1 < var2)
        comparison = "less than";
    else
    {
        if (var1 == var2)
            comparison = "equal to";
        else
            comparison = "greater than";
    }
    Console.WriteLine("the first number is {0} the second
number.", comparison);
}
```

Ex:

```
static void Main(string[] args)
{
    Console.Write("Enter Any Character:");
    char c = char.Parse(Console.ReadLine());
    if (char.IsUpper(c))
        Console.WriteLine("the character is upper case");
    else if (char.IsLower(c))
        Console.WriteLine("the character is lower case");
    else if (char.IsDigit(c))
        Console.WriteLine("the character is number");
    else
        Console.WriteLine("the character is not alphanumeric");
}
```

1.2. The Switch Statement:

Switch (<testVar>)

{

Case <comparisonVa1>;

< code to execute if <testVar>==<comparisonVa1> >

break;

Case <comparisonVa2>;

< code to execute if <testVar>==<comparisonVa2> >

break;

.....

Case <comparisonVaN>;

< code to execute if <testVar>==<comparisonVaN> >

break;

default:

< code to execute if <testVar> != <comparisonVas> >

break;

}

Ex:

```
static void Main(string[] args)
{
    Console.WriteLine("please Enter your Selection 1,2 or 3 :");
    int x = int.Parse(Console.ReadLine());
    switch (x)
    {
        case 1:
            Console.WriteLine("your choose 1.");
            break;
        case 2:
            Console.WriteLine("your choose 2.");
            break;
        case 3:
            Console.WriteLine("your choose 3.");
            break;
        default:
            Console.WriteLine("Error:?: please choose 1 or 2 or
3 .");
            break;
    }
}
```

Ex:

```
static void Main(string[] args)
{
    const string myname = "ahmad";
    const string fathename = "omar";
    const string mothername = "huda";
    string name;
    Console.WriteLine("what is your name?");
    name = Console.ReadLine();
    switch (name.ToLower())
    {
        case myname:
            Console.WriteLine("you have the same name as me:");
            break;
        case fathename:
            Console.WriteLine("you have the same name as my
father:");
            break;
    }
}
```

```

        case mothername:
            Console.WriteLine("you have the same name as my
mother:");
            break;
    }
    Console.WriteLine("Hello {0} :", name);
}

```

2. Loops:

2.1. Do-While loop

Do

```

{
    <code to be looped>
} while (<test>);

```

Ex:

```

static void Main(string[] args)
{
    int i=1;
    do
    {
        Console.WriteLine("{0}", i++);
    } while (i <= 10);
}

```

2.2. While loop

While (<test>)

```

{
    <code to be looped>
}

```

Ex:

```

static void Main(string[] args)
{
    int i=1;
    while (i <= 10)
    {
        Console.WriteLine("{0}", i++);
    }
}

```

2.3.For loops

for (<initialization>; <condition>; <operation>)

```
{  
<code of loop>  
}
```

Ex:

```
static void Main(string[] args)  
{  
    int i=1;  
    for (i = 1; i <= 10; i++)  
    {  
        Console.WriteLine("{0}", i);  
    }  
}
```

H.W: اكتب برنامج لطباعة الاعداد من 1 الى 100 كل خمس ارقام باستخدام **while**

Interrupting loops:

- **break**

Ex:

```
static void Main(string[] args)  
{  
    int i = 0;  
    while (i <= 100 )  
    {  
        if (i == 6)  
            break;  
        Console.WriteLine("{0}", i++);  
    }  
}
```

- **continue**

```
static void Main(string[] args)  
{  
    int i ;  
    for (i = 1; i <= 10; i++)  
    {  
        if ((i % 6) == 0)  
            continue;  
        Console.WriteLine(i);  
    }  
}
```

2
3
4
5
7
8
9
10

- **goto**

```
static void Main(string[] args)
{
    int i =1;
    while ( i <= 10 )
    {
        if (i == 6) goto exitpoint;
        Console.WriteLine("{0}",i++);
    }
    Console.WriteLine("this code will never be reached.");
exitpoint:
    Console.WriteLine("this code is run when loop is exited by
goto.");
}
```