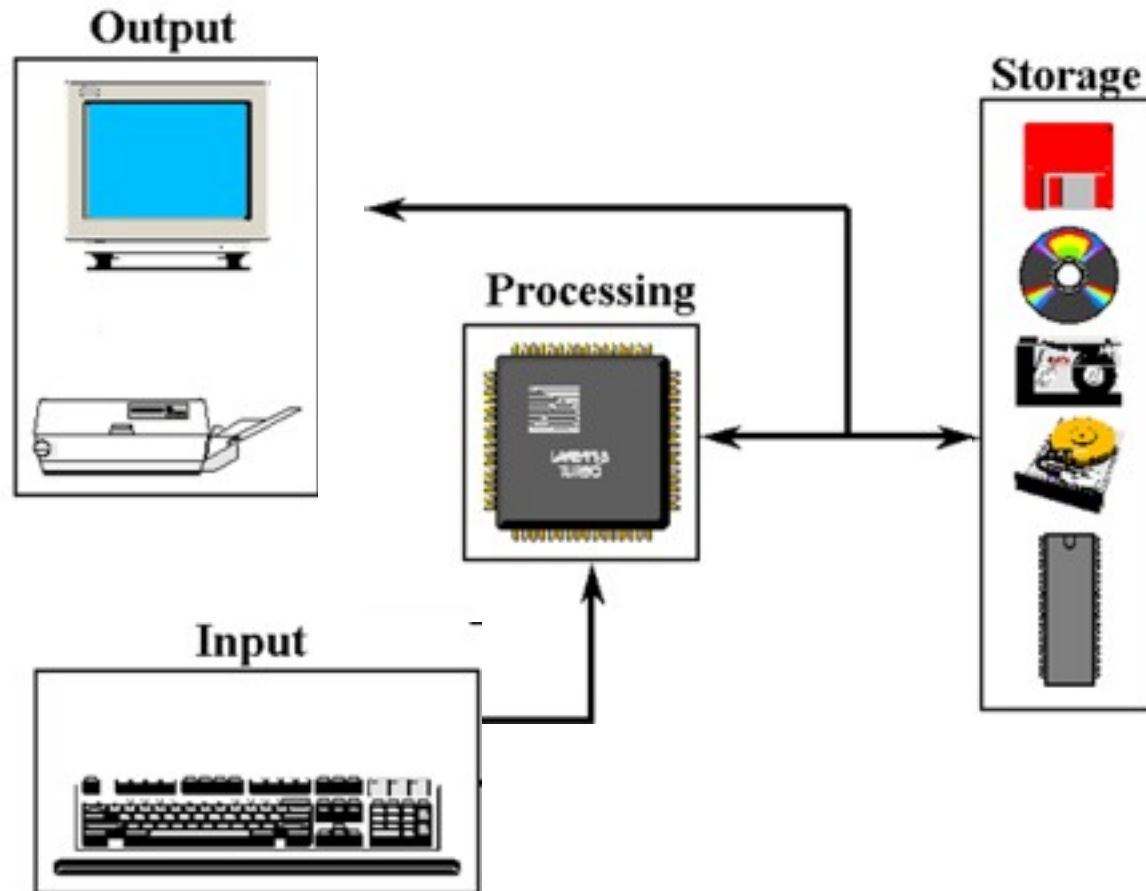


Unit 3

Variables

A Computer System



Naming Variables

1. The name of the first player in a game
2. The number of players in a game
3. The total cost of an online order
4. The DOB of an employee
5. Whether Student1 has attended the lesson

Variable Types

- String
- Integer
- Decimal
- Date
- Boolean

Variable Types

1. The name of the first player in a game
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Declaring Variables

Dim Number1, Number2, Sum As Integer

The Assignment Statement

- To assign a value to a variable we use an assignment statement:

Number1 = 25

- To make your program easy to read only add one assignment per line

Number1 = 25

Number2 = 36

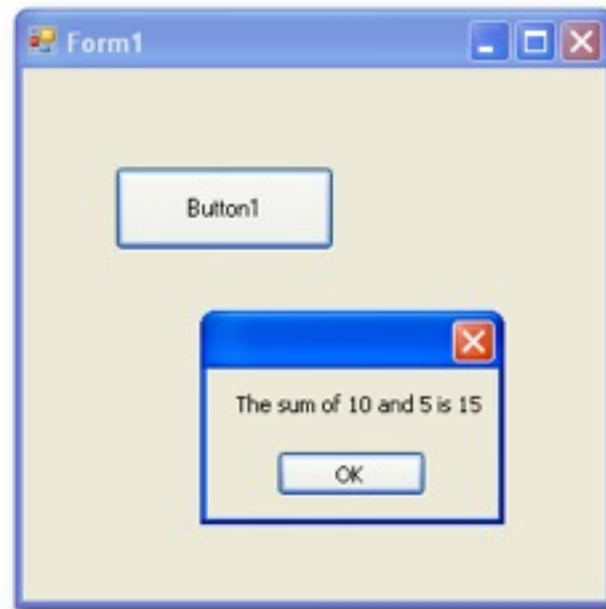
- An assignment can also consist of an expression

Sum = Number1 + Number2

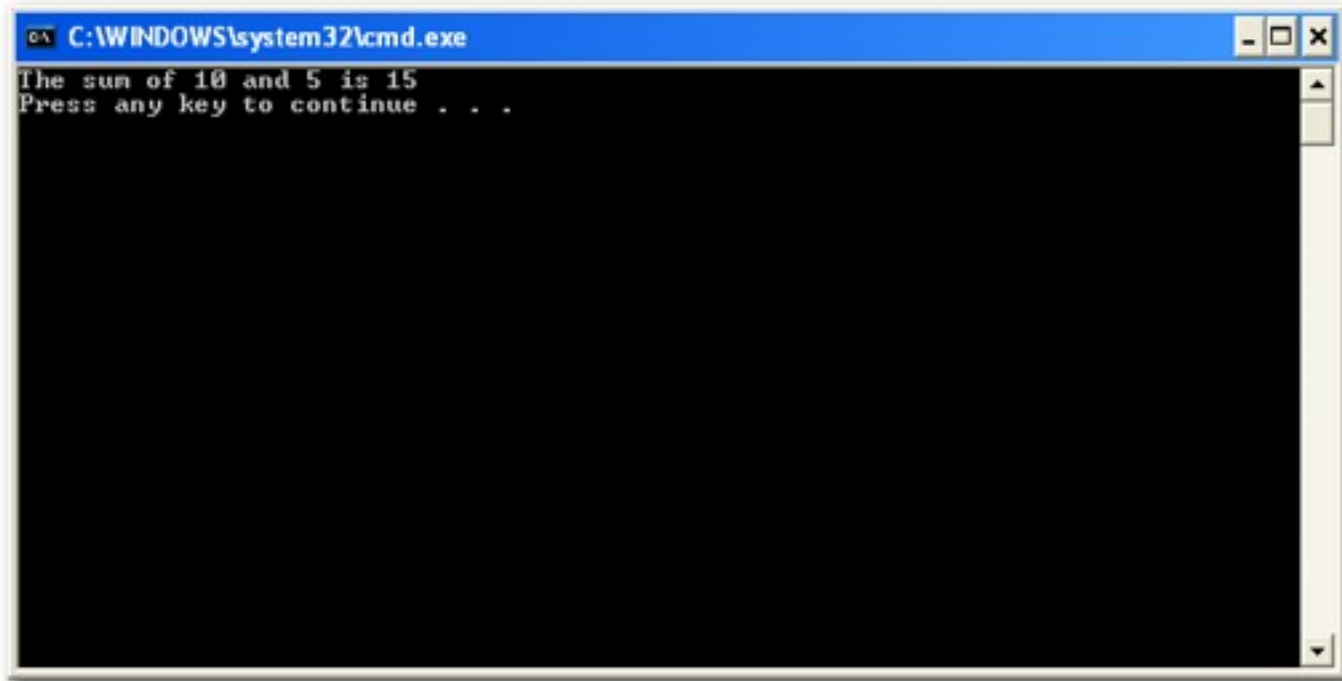
Declaring & Assigning Variables

1. The name of the first player in a game
2. The number of players in a game
3. The total cost of an online order
4. The DOB of an employee
5. Whether Student1 has attended the lesson

Windows Form Application



Console Application



Output to the Console

Dim Number1, Number2, Sum **As Integer**

Number1 = 25

Number2 = 36

Sum = Number1 + Number2

Console.WriteLine("The answer is " + Sum.toString)

Input to the Console

- Edit your program so that the user decides which numbers to add together

```
Console.WriteLine("Enter the first number please")
```

```
Number1 = Console.ReadLine()
```

Comments

- Add comments to your program to explain what the code does

Number1 = Console.ReadLine() ' The number entered by the user is saved in the variable called Number1

Operators

- You can use the following operators in an expression:

+	Add
-	Subtract
*	Multiply
/	Divide
\	Integer division
Mod	The remainder when numbers are divided
^	Exponent (power)
&	String concatenation (joining)

- Normal division normally results in a decimal number e.g. $17/5 = 3.4$
- In integer division we are just interested in the whole number e.g. $17\backslash 5 = 3$
- The mod operator gives us just the remainder after a division e.g. $17\text{Mod}5 = 2$

Sequencing Instructions

1. Declare variable types
2. Assign values to Variables or Input values from console
3. Perform Arithmetic Operations
4. Output results

Code it, Save it, Build it

1. Display the words 'Hello World' on the screen
2. Display two messages of your choice on the screen separated by an empty line
3. Display the sum and average of three numbers entered at the keyboard
4. Read in two integers and display how many times the first integer divides into the second integer (Using integer division). Display the remainder from this division. Hint use a mod operation.
5. The user enters an amount of money as a whole number. The program should calculate and display how many £20, £10 and £5 notes and £2 and £1 coins are needed to make up this amount of money. For example, £37 would give 1*£20, 1*£10, 1*£5 and 1*£2. Hint use integer division and the mod operation.