**JAVA BASICS**

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* Popular Code editors
* **Anatomy of a JAVA Program**  
   \* Function = smallest building block

= a block of code that performs a task (i.e. button on a tv remote, have a function to send email to somebody or validating users input )

* + **Coding a function in Java**  
    specify the return type of the function

Some functions have a return type of a value of a number, a date or nothing (void)  
After the return type we have the name of our function followed by a parenthesis. The name should have a proper descriptive name that clearly identifies the purpose of this function. Note that the name starts with a small letter.

In this parenthesis we would add the parameters of this function. Parameters are used to pass values to our function.

After the parenthesis we will have curly braces and which we will have the actual JAVA code. The first curly brace will be on the line where we define our function.

Every JAVA program should at least have one function and that function is called the **main function.**

**EXAMPLE OF A FUNCTION**

void main ( ) {

….

}

**Main** is the **entry point** to our programs therefore whenever we execute a Java program the main function gets called andthe code inside this function gets executed.

Function cannot exist on their own and therefore need to belong within a CLASS  
CLASS = A container for one or more related functions  
Classes are used to organise our code, think of how items are organised at a supermarket ……each section has related products  
  
Each program should at least have one class that contains the main function and within this main class we can have **functions**

**EXAMPLE**class Main {

void main ( ) {

…..

}

}

We refer to the functions within the main class as methods  
Therefore a method is a function that is part of a class  
When outside of the class it is called a function  
  
In JAVA all these classes and methods should have an **access modifier**  
An access modifier is a special keyword that determines if other classes and methods in this program can access the classes and methods  
Examples of Access Modifiers are Public(accessible from other parts of the program) or Private  
Access Modifiers are put in front of our class and method  
NOTE: The main method of the program should always be STATIC  
  
**EXAMPLE**   
  
public class Main {

public void main ( ) {

…….

}  
}

This is the basic structure of a JAVA program

To name classes we use the **P**ascal**C**ase meaning  
 the first letter of every word should be upper case  
 To name methods we the **c**amel**C**ase  
  
Example 2  
