**The Bible for Java Code**

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| **public class FirstProgram{** | Define a Class Signature  Class name must begin with a Capital (Camel Case)  The file should be called the same name |
| **public static void main (String args[]) {** | Main Method – Engine of the Program |
| **System.out.println(“First Java Application”);** | To print to screen  ln – To print to new line (L lowercase)  ; - After every command, there is a semi colon  “ Always use double commas except for displaying numbers” |
| **System.out.println(variable);** | To print a variable, we put the variable name inside the round brackets |
| **System.out.println(“Literal String ” + variable);** | To print a combination of literal strings and variables in the same print statement, literal strings and variables are separated using the + operator: |
| You will either have an opening {and closing} bracket or a semi colon; at the end of each sentence. You will never have both. | |
| **/\* \*/** | To add comments |
| **//** | Inline comments – useful for adding in information about the code |
| **Highlight bracket and press CTRL + M** | To find if you are missing a bracket |
| **int numbers** | Variables – Memory Location/Container  Type of data and a label  Whole numbers  Label should be lowercase |
| **double** | When working with decimals |
| **CONSTANT** | FINAL – Variable that never changes (i.e. vat rate) i.e. final double SUM |
| **BOMDAS Rule** | Put figures in brackets i.e  To display 9+5 = 14  System.out.println (“9+5=” + (9+5));  + operator joins text and numbers together |
| **Object Oriented Programming**  Reuse Data – Not reinventing the wheel Object Oriented Programming  i.e Dog  State (Name, breed, color)  Behaviour (Barking, wagging tail)  **To accept input, the following code needs to be inputted** | |
| **(1) import java.util.Scanner;**  **(2) //Create and assign objects**  Scanner keyboard  Keyboard = new Scanner (System.in);  **(3) // input**  System.out.println(“Enter Radius”);  Radius = keyboard.nextInt(); | (1) To allow input from a user (This line goes at the start (before public class)  (2) Create an object  Allow for input  (3) Ask the user to enter data  Whatever they enter – go to the next integar |
| **Programming Errors** | Spelling mistakes  Missing semi-colons  Missing brackets { or } |
| **Casting**  **answer = (double) value / n;** | Type-casting to help perform real number division  i.e. 10/3 = 3 in Java – you therefore need to write it in a special way.  This says that the answer must be in decimals |
| **GUI I/O – JoptionPane**  import javax.swing.JOptionPane;  showInputDialog() **accepting input**  showMessageDialog() **displaying output**  Example: result = JOptionPane.showInputDialog(null, “What is your name”); | Pop up windows  Another class like Scanner |

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| **If statements – It performs a conditional test to evaluate an expression for a Boolean value. A statement following the expression will only be executed when the evaluation is true.** | |
| isPerfectScore = (quizScore == 10); | = assigns  == equals |
|  | < less than  > more than  && and  || or  ! not |
|  | If – first if statement  If else – next if statement  Else – last part which considers everything else |
| **Comparing strings use .equals()**  **Instead of using an IF statement, you can use a switch statement** | |
| **Looping** – Is a block of code that repeatedly executes the statements it contains until a tested condition is met, then the loops ends and the program proceeds on to its next task. | |
| **Elements of the counter:**  Initialisation – where does it start  Termination – where does it stop  Progression – how does it get from the start to the finish  Action – What block of statements are being repeated | |
| **For loop** | For(I;T;P){A;} |
| **While loop** | I;while(T){A;P;} |
| **Do while** | I;do{AP;}while(T); |
| **Break** | Prematurely terminate a loop |
|  | ++ is the same as +1(Increment of 1) |