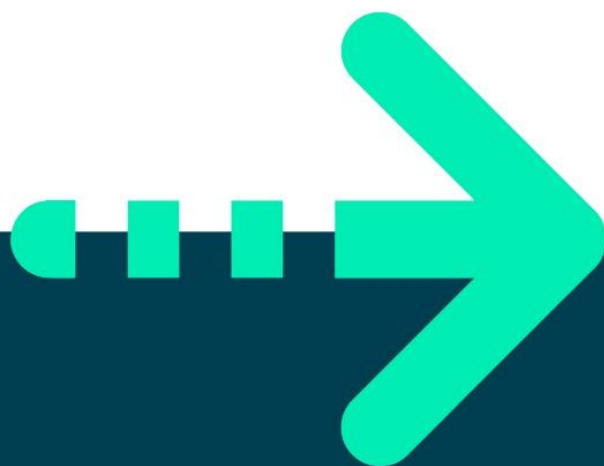




# JAVA LANGUAGE BASICS

JAVA FUNDAMENTALS





## Lab 2, Java Language Basics

### Objective

In this lab you will:

- Declare and initialise variables.
- Practise using mathematical operators.

### Part 1 – Declaring and initialising local variables.

Step by step.

1. Back in the labs project you created in Lab 1, create a new package called **lab02**.
2. Add a new class called **Program** to the *lab02* package with a `main()` method.

Please refer to Lab 1's instructions if you need help.

3. Declare and initialise variables to hold your details. (These can be made up if you prefer.)
  - a. age (`int`).
  - b. name (`String`).
  - c. house number (`int`), street (`String`) and post code (`String`)
  - d. telephone number (`String`)
  - e. company you work for (`String`)
  - f. salary (`double`)
  - g. if you have a driving licence (`boolean`)
4. Use a `println` (or a series of `println` methods) to display the above information.

You can put variable together inside a `println()` method using the `+` operator.



## Part 2 – Doing some maths work.

1. Expand the main method.
2. Comment all the code you wrote in Part 1.  
*Tip:* Highlight the code and press **Ctrl-/**
3. Copy and paste the code below and carryout the tasks.  
Please try one task at a time, save and run your code to test your code at every step.

```
System.out.println("Initial Value: " + number);
int number = 5;

// Task 1
// - double it using the '*' operator
// - now double it again using the '*=' operator

System.out.println("\n1. After doubling it twice: " + number);

// Task 2
// - add 3 to it using the '+' operator
// - now add 3 to it using the '+=' operator

System.out.println("\n2. After adding 3 twice: " + number);

// Task 3 - subtract 12 from it using an appropriate 'compound' operator

System.out.println("\n3. After subtracting 12: " + number);

// Task 4 - divide the number (ought to be 14 now) by 3
// what do you think the answer is

System.out.println("\n4. After dividing by 3: " + number);

// Task 5 write 4 different statements that all do the same thing
// namely 'add 1 to the number'

System.out.println("\n5. After adding 1 four times: " + number);

// Task 6 decrement by 1 the value of number

System.out.println("\n6. After decrementing once: " + number);

// Task 7 put the remainder when dividing by 3 into 'remainder'
int remainder = 0;

System.out.println("\n7. Remainder when dividing by 3 is : " + remainder);

// Task 8
// decide what it will print before uncommenting the println()

int a = 2, b = 3, c = 5;
double d1, d2, d3, d4;

d1 = a + b * c / 2;
d2 = (a + b * c) / 2;
d3 = (a + b) * c / 2;
d4 = (a + b) * (c / 2);
```



```
// System.out.println("\n8. Values: " + d1 + " : " + d2 + " : " + d3  
// + " : " + d4);
```

```
// Type your answer here-->
```

```
// Task 9
```

```
int p, q;  
p = 10;  
q = 10;  
p += q++;
```

```
// Decide what the next line will print  
// System.out.println("\n9. Result is: " + (p + q));  
// Answer-->
```

```
// Task 10 - Uncomment the code below  
//System.out.println("\n11.");
```

```
// Decide what the following 4 lines will print  
// The 4th one might surprise you
```

```
// System.out.println("fred" + 3 + 4); // Answer-->  
// System.out.println(3 + 4 + "fred"); // Answer-->  
// System.out.println("" + 3 + 4); // Answer-->  
// System.out.println(3 + ' ' + 4); // Answer-->
```

```
** End **
```

