

# **JAVA – Basics**

## Lecture 1

# Real World Applications

**Android Developer**

**Selenium (Tester)**

**SAP (Webapp)**



**Cloud computing**

**Magic Frame  
work(for  
geographic  
location)**

**MDM ( Master Data  
Management )**

**Android Developer**

**SAP (Webapp)**

**Selenium (Tester)**

**Therefore  
Java!!**

**Hadoop (Big Data  
Developer)**

**Web services**

**Cloud computing**

**Magic Frame  
work(for  
geographic  
location)**

**Application  
Development  
Framework**

Java

```
graph TD; Java[Java] --> IDE[Integrated Development Environment IDE<br/>Ex: Net beans<br/>Eclipse]; Java --> Editor[Editor + command prompt];
```

The diagram illustrates the relationship between Java and its development environments. At the top, a blue rounded rectangle labeled 'Java' has two arrows pointing downwards to two separate red rounded rectangles. The left red rectangle is labeled 'Integrated Development Environment IDE' with examples 'Ex: Net beans' and 'Eclipse'. The right red rectangle is labeled 'Editor + command prompt'. In the center, between the top and bottom boxes, is a white rounded rectangle with an orange border containing the text 'A Class Based Language'.

A Class Based  
Language

Integrated Development  
Environment  
IDE  
Ex: Net beans  
Eclipse

Editor + command  
prompt

C

```
#include <stdio.h>
int main()
{
    printf("Hello!!");
return 0;
}
```

JAVA

```
import java.io.*
public class Main
{
    public static void main(String[] args)
    {
        System.out.println("Hello!!");
    }
}
```

Program to print  
Hello!!

```
import java.io.*
public class Main
{
    public static void main(String[] args)
    {
        System.out.println("Hello!!");
    }
}
```

Predefined  
classes

main is inside a  
class!!

C

```
#include <stdio.h>
int main()
{
    printf("Hello!!");
    return 0;
}
```

Procedural language

JAVA

```
import java.io.*
public class Main
{
    public static void main(String[] args)
    {
        System.out.println("Hello!!");
    }
}
```

Class based language

C

```
#include <stdio.h>
int main()
{
    printf("Hello!!");
return 0;
}
```

Predefined support –  
header files

JAVA

```
import java.io.*
public class Main
{
    public static void main(String[] args)
    {
        System.out.println("Hello!!");
    }
}
```

Predefined support –  
classes present in  
packages



C

Header files  
contains functions

C

Stdio.h

printf, scanf

JAVA

Packages contains  
classes and  
interfaces

Classes contain  
methods

Java

packages

Classes/  
interfaces

methods

C

OS calls the main  
method

printf

JAVA

JVM calls the main  
method

System.out.println

# JAVA - Introduction

- Object Oriented Programming Language
  - Every JAVA program has at least one class
- Filename Extension:
  - Foo.java
  - Class name Vs. File name
- Assume this is a template

```
1  class Foo
2  {
3      public static void main(String args[])
4      {
5          //Type your code here
10     }
11 }
```

# Program - “Hello world”

```
1  import java.io.*;
2
3  class Foo
4  {
5      public static void main(String args[])
6      {
7          System.out.println("Hello world!!!");
8      }
9  }
```

# Getting User Input

```
1  import java.io.*;
2  import java.util.*;
3
4  class Foo
5  {
6      public static void main(String args[])
7      {
8          Scanner sc = new Scanner(System.in);
9          int a = sc.nextInt();
10         System.out.println(a);
11     }
12 }
```

# Adding two numbers

```
1 import java.io.*;
2 import java.util.*;
3 class Foo
4 {
5     public static void main(String args[])
6     {
7         Scanner sc = new Scanner(System.in);
8         int a = sc.nextInt();
9         int b = sc.nextInt();
10        int c = a + b;
11        System.out.println(c);
12    }
13 }
```

# Convention

```
1  import java.io.*;
2  import java.util.*;
3  class Foo
4  {
5      public static void main(String args[])
6      {
7          Scanner sc = new Scanner(System.in);
8          int a = sc.nextInt();
9          int b = sc.nextInt();
10         int c = a + b;
11         System.out.println(c);
12     }
13 }
```

- Only core logic will be discussed  
- Highlighted one

# Program – “ All numbers are Equal”

Input : a,b,c

```
If ( all three inputs are equal)
{
    print - equal
}
else
{
    print - not equal
}
```

```
public class Main
{
    public static void main(String[]
        args)
    {
        Scanner s=new Scanner(System.in);
        int a,b,c;
        a=s.nextInt();
        b=s.nextInt();
        c=s.nextInt();
        if(
            a==b && a==c
        )
            System.out.println("equal");
        else
            System.out.println(" Not
                equal");
    }
}
```

```
import java.util.*;
```



# Try these

1. Average of three numbers
2. Factors of a number
3. Factorial of a number

A white, hand-drawn style speech bubble is centered on a textured, light brown corkboard background. The bubble has a small tail pointing towards the bottom center. Inside the bubble, the words "Thank you!!" are written in a bold, black, handwritten-style font. The word "Thank" is on the top line, and "you!!" is on the bottom line, slightly indented to the right.

Thank  
you!!