

Introduction to Basic Java Program Structure

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OBJECTIVES:-

- Familiar with the general syntax of java programs.
- Write, compile and run Java programs.
- Understand the concept of bytecode.

General syntax of java program:

```
class Class_name
{
public static void main(String[] msg)
{
//code here
}
}
```

Here,
class-keyword
Class_name-name of class and file name
main-main function where the program begins to run

Program 1:

1. Write your code in the text editor (Geany/notepad++/Sublime text).

```
class First
{
public static void main(String[] args)
{
System.out.println("My first java program");
}
}
```

2. Save the program with the name First(same as the name of class) and extension(.java) for example:First.java
3. Compile and run java programs. To compile the program use command javac that converts the java source code into binary program consisting of byte codes.

```
javac First.java
```

If the program contains no errors the compiler generates the byte code program(.class file) from your source file. The compiler stores the byte code and then executes the program within the java virtual machine.

```
java First
```

Output:

```
gandaki@gandaki-006:~/Documents/java_lab$ cd Lab1
gandaki@gandaki-006:~/Documents/java_lab/Lab1$ javac First.java
gandaki@gandaki-006:~/Documents/java_lab/Lab1$ java First
My first java program
```

Program 2: Calculate the addition of two numbers.

```
class Add
{
public static void main(String[] args)
{
int a,b,sum;
a= 5;
b= 2;
sum=a+b;
System.out.println("Addition of two numbers is:" +sum);
}
```

```
}
```

Output:

```
gandaki@gandaki-006:~/Documents/java_lab/Lab1$ javac Add.java
gandaki@gandaki-006:~/Documents/java_lab/Lab1$ java Add
Addition of two numbers is:7
```

Program 3:

WAP to calculate the product of two numbers taking the input from the user.

```
import java.util.Scanner;
class Product
{
    public static void main(String[] args)
    {
        double a,b,product;

        System.out.println("Enter one number");
        Scanner sc=new Scanner(System.in);
        a=sc.nextInt();
        System.out.println("Enter second number");

        b=sc.nextInt();
        product=a*b;
        System.out.println("The product of two numbers is:" +product);
    }
}
```

Output:

```
gandaki@gandaki-006:~/Documents/java_lab/Lab1$ javac Product.java
gandaki@gandaki-006:~/Documents/java_lab/Lab1$ java Product
Enter one number
2
Enter second number
3
The product of two numbers is:6.0
```

Program 4: A program to find the area of the circle.

```
public class CircleArea {  
    public static final double PI = 3.14159;  
  
    public static void main(String[] args) {  
        double radius = 5.0; // Example radius value  
  
        double area = PI * radius*radius;//Math.pow(radius, 2);  
  
        System.out.println("The area of the circle is: " + area);  
    }  
}
```

Program 5:

WAP to calculate the greatest number among three numbers. Take input from the user.

Program 6:

Write a Java program to check whether the given number is even or odd. Take the input from the user.

Program 7: Write a program to find the volume of a cylinder.