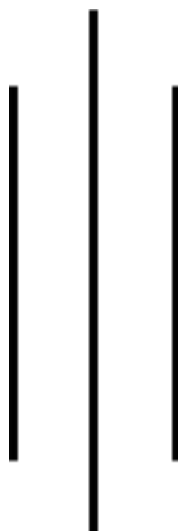


# Shree Pokhariya Secondary School

Bratnagar-3, Morang



Annual Laboratory report for java programming language  
Academic year 2078

Name of Student  
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Symbol no:1

Instructor  
Navaraj Adhikari

## Acknowledgement

This acknowledgement is made as the completeness of the lab session by Bishal Kr Shah of the 3rd academic year of Technical education in computer engineering in Java programming language . I would like to thank my instructor Mr Navraj Adhikari for guiding me throughout the course and session .Again I would like to thank Mr Lokesh Shah for assisting me throughout the whole academic lab session.

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Instructor

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Lab Assistant

Content:

Introduction:

- i.Hello world

Data type:

- i.Program demonstrating int ,float , long ,byte,double;
- ii.Program demonstrating non-primitive datatypes (List,dict,arrays)

Operators:

- i.Program demonstrating arithmetic operators
- ii.Program demonstrating various logical operators
- iii.Program demonstrating operators on the basis of literals

Strings:

- i.Program demonstrating string concatenation
- ii.Program using different string methods

Control statements:

- i.Program demonstrating if statement
- ii.Program demonstrating if else statement/if-else ladder

Loops:

- i.Program demonstrating while/do-while loop
- ii.Program demonstrating for loop
- iii.Program demonstrating switch cases

Oops:

- i.Program demonstrating classes and objects
- ii.Program demonstrating inheritances

Additional:

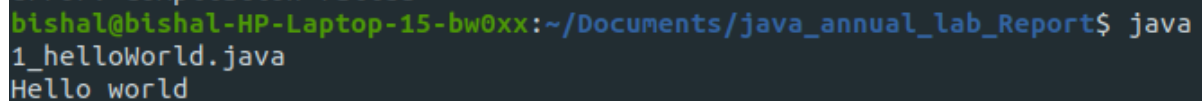
- i.Program using Insertion sorting algorithm
- ii.Program implementing FCFS algorithm
- iii.Program to find fibonacci number
- iv.Program for reversing an string
- v.Program to check whether the entered number is a palindrome number or not
  
- vi.Program to print armstrong number between 100 and 1000
- vii.Program to check weather the number is divisible by 5 or not
- vii.Program to find prime number to n numbers



1.Program to print hello world

```
class Main{  
    public static void main(String []args){  
        System.out.println("Hello world");  
    }  
}
```

Output:

A terminal window with a dark background. The prompt is 'bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java\_annual\_lab\_Report\$'. The command 'java 1\_helloWorld.java' has been entered, and the output 'Hello world' is displayed on the next line.

```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java  
1_helloWorld.java  
Hello world
```

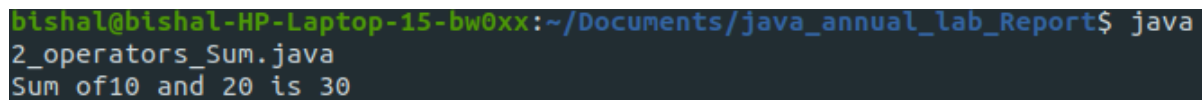
fig:Hello world program

---

2.Program to sum two numbers

```
class Sum{  
    public static void main(String args[]){  
        int a = 10;  
        int b = 20;  
        int c = a+b;  
        System.out.println("Sum of"+a+" and "+b+" is "+c);  
    }  
}
```

OUTPUT:

A terminal window with a dark background. The prompt is 'bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java\_annual\_lab\_Report\$'. The command 'java 2\_operators\_Sum.java' has been entered, and the output 'Sum of10 and 20 is 30' is displayed on the next line.

```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java  
2_operators_Sum.java  
Sum of10 and 20 is 30
```

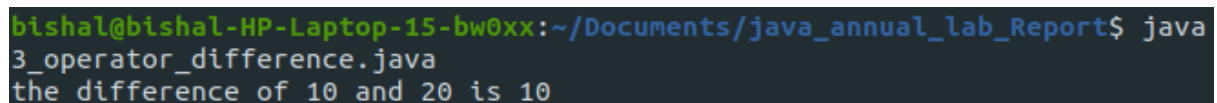
fig:Sum operator

---

3.Program to find difference between two numbers

```
class Main{  
    public static void main(String []args){  
        int a = 10;  
        int b = 20;  
        int c = b-a;  
        System.out.println("the difference of "+a+" and "+b+" is "+c);  
    }  
}
```

Output

A terminal window with a dark background. The prompt is 'bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java\_annual\_lab\_Report\$'. The command 'java 3\_operator\_difference.java' has been entered, and the output 'the difference of 10 and 20 is 10' is displayed on the next line.

```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java  
3_operator_difference.java  
the difference of 10 and 20 is 10
```

fig:Difference operators

4. Program to find product of two number

```
class operator_product{
    public static void main(String args[]){
        int a = 10;
        int b = 20;
        int c = a*b;
        System.out.println("the product of "+a+" and "+b+" is "+c);
    }
}
```

OUTPUT:

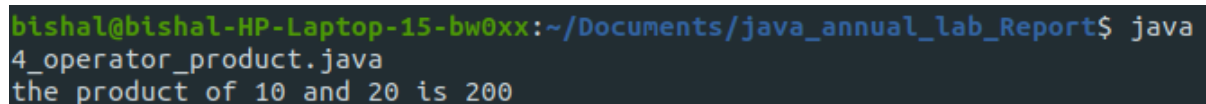
A terminal window with a dark background. The prompt is 'bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java\_annual\_lab\_Report\$'. The command 'java 4\_operator\_product.java' has been entered. The output is 'the product of 10 and 20 is 200'.

Fig:multiplication operator

---

5. Program to divide a number with another

```
class operator_division{
    public static void main(String []args){
        int a = 10;
        int b = 20;
        float c = b/a;
        System.out.println("the quotient ,dividing"+b+" with "+a+" is "+c);
    }
}
```

OUTPUT:

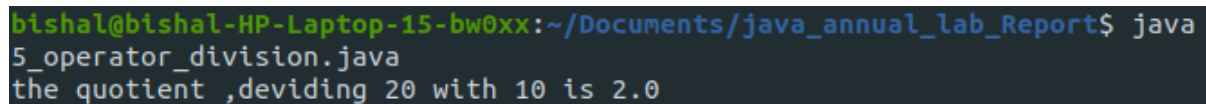
A terminal window with a dark background. The prompt is 'bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java\_annual\_lab\_Report\$'. The command 'java 5\_operator\_division.java' has been entered. The output is 'the quotient ,dividing 20 with 10 is 2.0'.

Fig:division operator

---

6. Program for modulus division

```
class modulus_division{
    public static void main(String args[]){
        int a = 3;
        int b = 2;
        int c = a%b
        System.out.println("the remainder in devision of "+a+" by "+b+" is "+c);
    }
}
```

OUTPUT:

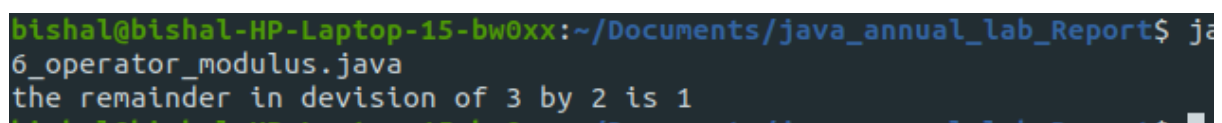
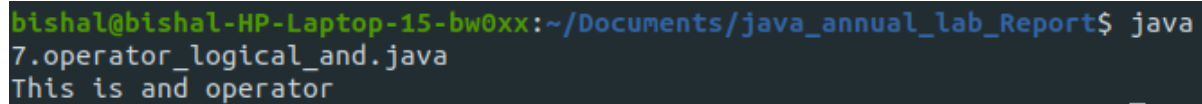
A terminal window with a dark background. The prompt is 'bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java\_annual\_lab\_Report\$'. The command 'java 6\_operator\_modulus.java' has been entered. The output is 'the remainder in devision of 3 by 2 is 1'.

Fig:modulus division

### 7.Program for and operator

```
class operator_logical_and{
    public static void main(String args[]){
        if(1 != 2 && 2!=3){
            System.out.println("Hello Bishal");
        }
    }
}
```

OUTPUT:



```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java
7.operator_logical_and.java
This is and operator
```

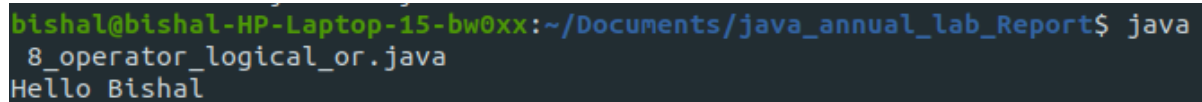
fig:And operator

---

### 8.Program demonstrating or operator

```
class operator_logical_and{
    public static void main(String args[]){
        if((2==2) || (3!=3)){
            System.out.println("Hello Bishal");
        }
    }
}
```

OUTPUT:



```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java
8.operator_logical_or.java
Hello Bishal
```

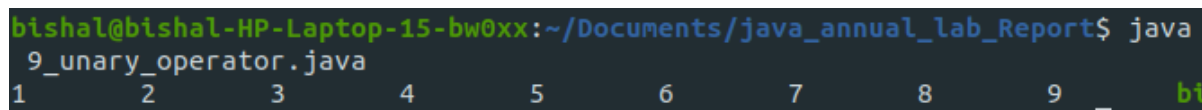
Fig:Or operator

---

### 9.Program demonstrating unary operator

```
class UnaryOperator{
    public static void main(String[] args) {
        int a = 1;
        while(a<10){
            System.out.print(a+"\t");
            a+=1;
        }
    }
}
```

OUTPUT:



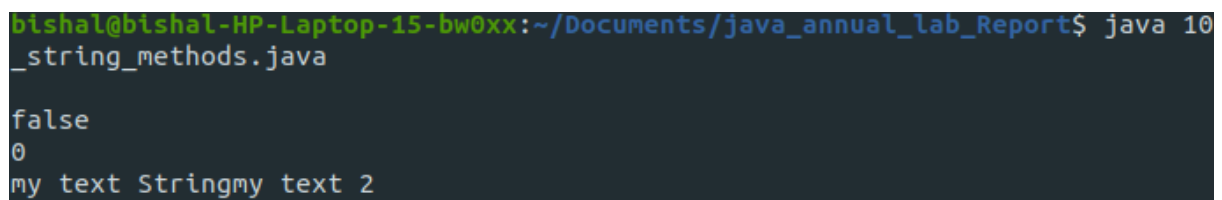
```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java
9_unary_operator.java
1      2      3      4      5      6      7      8      9      bi
```

Fig: unary operator

#### 10. Program using several string methods

```
class stringMethod{
    public static void main(String[] args) {
        String testString = "my text String";
        System.out.println(testString.charAt(2)); //returns space
        System.out.println(testString.equals("testString1")); //returns false
        System.out.println(testString.compareTo("my text String")); //return true
        System.out.println(testString.concat("my text 2")); //add the texts
    }
}
```

OUTPUT:



```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java 10
_string_methods.java

false
0
my text Stringmy text 2
```

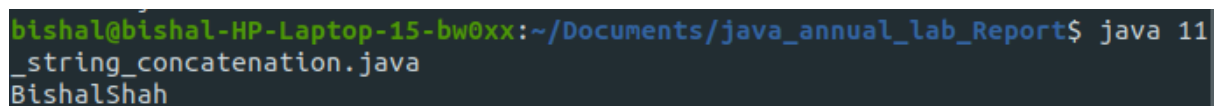
Fig: string methods

---

#### 11. Program for concatenating two string

```
class concatenation{
    public static void main(String[] args) {
        String firstName = "Bishal";
        String lastName = "Shah";
        System.out.println(firstName+lastName);
    }
}
```

OUTPUT:



```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java 11
_string_concatenation.java
BishalShah
```

Fig:string concatenation

---

#### 12. Program demonstration if statement

```
class condinational_if{
    public static void main(String[] args) {
        int a= 10;
        if(a%2 == 0){
            System.out.println("the number "+a+"is even");
        }
        else{
            System.out.println("the number "+a+"is odd");
        }
    }
}
```



```
}
```

Output:

```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java 12_conditional_if.java
the number 10 is even
```

Fig:if statement

---

13.Program demonstrating nested if

```
class nestedIf{
    public static void main(String[] args) {
        int a = 10;
        if(a%2 == 0){
            System.out.println("the number "+a+" is even");
        }
        else if(a%2!=0){
            System.out.println("the number "+a+" is odd");
        }
        else{
            System.out.println("please rerun the program and enter integer");
        }
    }
}
```

OUTPUT:

```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java 13_conditional_if_1adder.java
the number 10 is even
```

14.

```
class whileLoop{
    public static void main(String[] args) {
        Scanner get = new Scanner(System.in);
        System.out.println("Enter a number");
        a = get.nextInt();
        boolean isPrime;
        int temp = 3;
        if (a>2){
            while(temp<a){
                if(a%temp !=0){
                    isPrime = true;
                }
                else{
                    isPrime = false;
                }
            }
        }
    }
}
```

```
}
```

OUTPUT:

```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java
14_while_loop.java
Enter a number
5
The value of a is 5 now and decreasing for 1
The value of a is 4 now and decreasing for 1
The value of a is 3 now and decreasing for 1
The value of a is 2 now and decreasing for 1
```

15.

```
import java.util.Scanner;
```

```
class dowhileLoop{
```

```
    public static void main(String[] args) {
```

```
        int a = 2;
```

```
        do{
```

```
            System.out.println("Hello world");
```

```
            a = a+2;
```

```
        }
```

```
        while(a<10);
```

```
    }
```

```
}
```

OUTPUT:

```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java
15_do_whileloop.java
Hello world
Hello world
Hello world
Hello world
```

16.program demonstrating do while loop

```
class forLoop{
```

```
    public static void main(String[] args) {
```

```
        for(int i = 1;i<10;i++){
```

```
            System.out.println("Hello world");
```

```
        }
```

```
    }
```

```
}
```

OUTPUT:

```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java
15_do_whileloop.java
Hello world
Hello world
Hello world
Hello world
```

17. Program demonstrating switch case

```
class Switchcase {
    public static void main(String[] args) {
        int day = 4;
        switch (day) {
            case 1:
                System.out.println("Monday");
                break;
            case 2:
                System.out.println("Tuesday");
                break;
            case 3:
                System.out.println("Wednesday");
                break;
            case 4:
                System.out.println("Thursday");
                break;
            case 5:
                System.out.println("Friday");
                break;
            case 6:
                System.out.println("Saturday");
                break;
            case 7:
                System.out.println("Sunday");
                break;
        }
    }
}
```

Output:

```
]bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java
17_switch_Case.java
Thursday
```

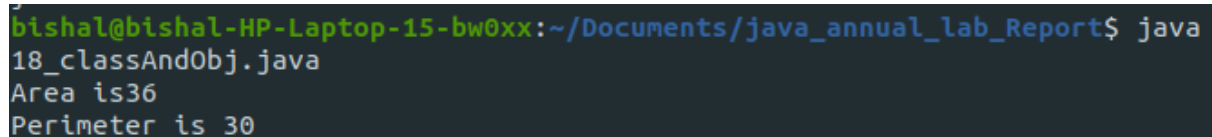
18.Program demonstrating class and object

```
class Main{
    public static void main(String[] args) {
        int l = 10;
        int b = 5;
        Rectangle rect1 = new Rectangle();
        rect1.getData(12,3);
        rect1.Area();
        rect1.Perimeter();
    }
}

class Rectangle{
    int length;
    int bredth;

    void Rectangle(){
        System.out.println("Initilized");
    }
    void getData(int l,int b){
        length = l;
        bredth = b;
    }
    void Area(){
        System.out.println("Area is" +(length*bredth));
    }
    void Perimeter(){
        int peri ;
        peri = 2*(length+bredth);
        System.out.println("Perimeter is "+peri);
    }
}
```

Output:

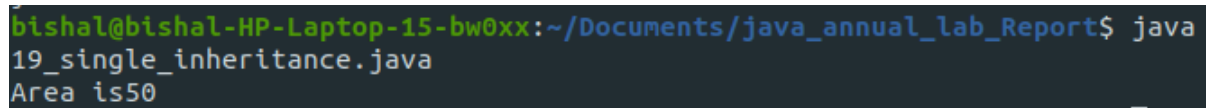


```
bishaal@bishaal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java
18_classAndObj.java
Area is36
Perimeter is 30
```

#### 19. Program demonstrating single inheritance

```
class SingleInheritance extends Rectangle{
    public static void main(String[] args) {
        SingleInheritance example = new SingleInheritance();
        example.Area();
    }
}
class Rectangle{
    int length = 10;
    int breadth = 5;
    void Area(){
        System.out.println("Area is" + (length * breadth));
    }
}
```

OUTPUT:



```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java
19_single_inheritance.java
Area is50
```

---

#### 20.

```
class C extends B{
    public void z(){
        super.y();
        System.out.println("Hello world by C");
    }
    public static void main(String[] args) {
        C example = new C();
        example.z();
    }
}

class A{
    public void x(){
        System.out.println("Hello world by A");
    }
}
class B extends A{
    public void y(){
        super.x();
        System.out.println("Hello world by B");
    }
}
```

OutPut:

```
bishal@bishal-HP-Laptop-15-bw0xx:~/Documents/java_annual_lab_Report$ java  
20_multilevel_Inheritance.java  
Hello world by A  
Hello world by B  
Hello world by C
```

---