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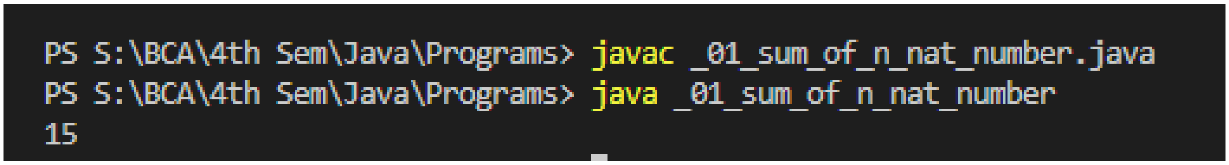
1. Program to find Sum of n natural number.

```
// Sum of n natural number
class A{
public int sum(int n){
int sum = 0;
for(int i = 0; i<=n; i++){
sum += i;
}
return sum;
}
}

class _01_sum_of_n_nat_number{
public static void main(String[] args) {
A obj = new A();
int sum = obj.sum(5);

System.out.println(sum);
}

}
```

Output:



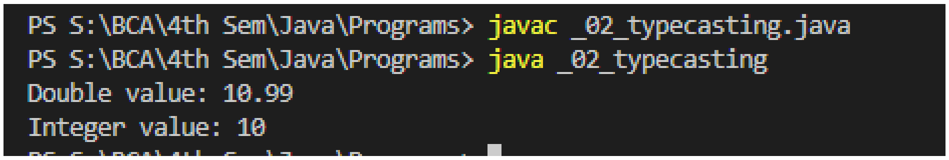
```
PS S:\BCA\4th Sem\Java\Programs> javac _01_sum_of_n_nat_number.java
PS S:\BCA\4th Sem\Java\Programs> java _01_sum_of_n_nat_number
15
```

Typecasting:

2. Program for Narrowing Typecasting.

```
// narrowing TypeCasting
public class _02_typecasting {


public static void main(String[] args) {
// double type variable
double num = 10.99;
System.out.println("Double value: " + num);


// double to int typecasting
int data = (int)num;
System.out.println("Integer value: " + data);
}
}
```

Output:

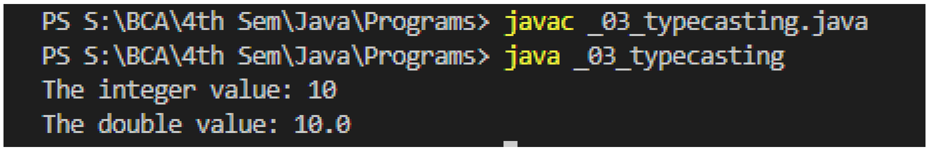


```
PS S:\BCA\4th Sem\Java\Programs> javac _02_typecasting.java
PS S:\BCA\4th Sem\Java\Programs> java _02_typecasting
Double value: 10.99
Integer value: 10
```

3. Program for Widening Typecasting.

```
// widening TypeCasting

public class _03_typecasting {

public static void main(String[] args) {

// Int variable

int num = 10;

System.out.println("The integer value: " + num);


// int to double conversion

double data = num;

System.out.println("The double value: " + data);

}

}
```

Output:

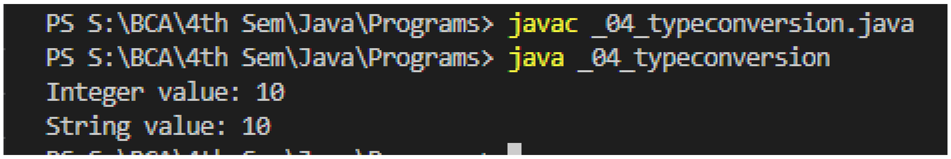


```
PS S:\BCA\4th Sem\Java\Programs> javac _03_typecasting.java
PS S:\BCA\4th Sem\Java\Programs> java _03_typecasting
The integer value: 10
The double value: 10.0
```

4. Program for typeconversion from int to string.

```
// int to string typeconversion
public class _04_typeconversion {
public static void main(String[] args) {
// int type variable
int num = 10;
System.out.println("Integer value: " + num);

// int to string type
String data = String.valueOf(num);
System.out.println("String value: " + data);
}
}
```

Output:



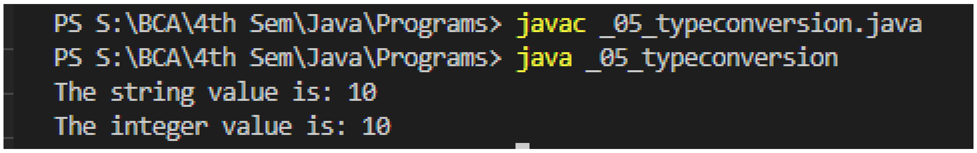
```
PS S:\BCA\4th Sem\Java\Programs> javac _04_typeconversion.java
PS S:\BCA\4th Sem\Java\Programs> java _04_typeconversion
Integer value: 10
String value: 10
```

5. Program for typeconversion from string to int.

```
// string to int typeconversion


public class _05_typeconversion {
public static void main(String[] args) {
```

```
// String type
String data = "10";
System.out.println("The string value is: " + data);

// string var to int
int num = Integer.parseInt(data);
System.out.println("The integer value is: " + num);
}
}
```

Output:



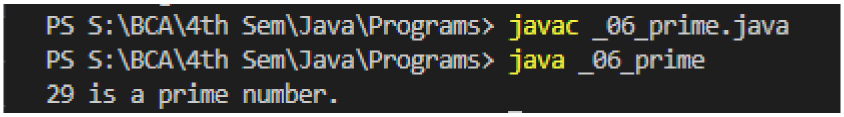
```
PS S:\BCA\4th Sem\Java\Programs> javac _05_typeconversion.java
PS S:\BCA\4th Sem\Java\Programs> java _05_typeconversion
The string value is: 10
The integer value is: 10
```

6. Program to check if the given number is prime or not.

```
// Program to check if number is prime or not
public class _06_prime {
static boolean isPrime(int num) {

boolean flag = false;
for (int i = 2; i <= num / 2; ++i) {
// condition for nonprime number
if (num % i == 0) {
```

```
flag = true;
break;
}
}

if (!flag)
return false;
else
return true;
}


public static void main(String[] args) {

int num = 29;

if (!isPrime(num))
System.out.println(num + " is a prime number.");
else
System.out.println(num + " is not a prime number.");
}
}
```

Output:

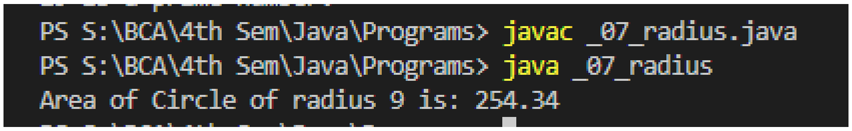


```
PS S:\BCA\4th Sem\Java\Programs> javac _06_prime.java
PS S:\BCA\4th Sem\Java\Programs> java _06_prime
29 is a prime number.
```

7. Program to calculate Area of the circle.

```
// Program to calculatre area of radius

public class _07_radius {

public static void main(String args[]){

final double pi = 3.14;

int r = 9;

double area = pi * r * r;

System.out.println("Area of Circle of radius " + r + " is: " + area);

}

}
```

Output:

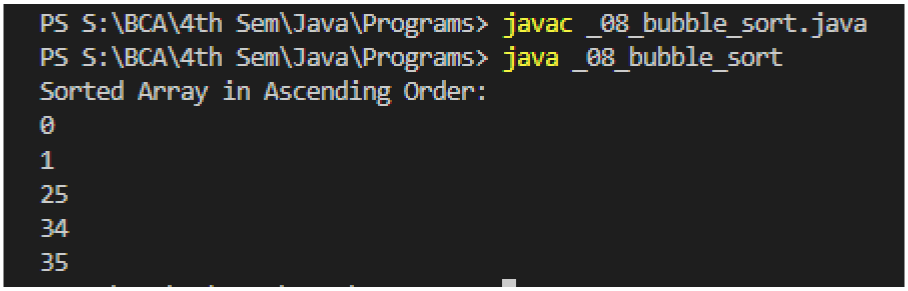


```
PS S:\BCA\4th Sem\Java\Programs> javac _07_radius.java
PS S:\BCA\4th Sem\Java\Programs> java _07_radius
Area of Circle of radius 9 is: 254.34
```

8. Sorting Program

```
import java.util.*;
public class _08_bubble_sort {

static void bubbleSort(int arr[]) {
int size = arr.length;

for (int i = 0; i < size - 1; i++)
for (int j = 0; j < size - i - 1; j++)
if (arr[j] > arr[j + 1]) {

int temp = arr[j];
arr[j] = arr[j + 1];
arr[j + 1] = temp;

}
}

public static void main(String args[]) {

int[] arr = { 25, 35, 34, 1, 0 };

// call method using class name
bubbleSort(arr);
System.out.println("Sorted Array in Ascending Order:");

for(int i = 0; i<arr.length ; i++){

System.out.println(arr[i] );

}

}

}
```

Output:

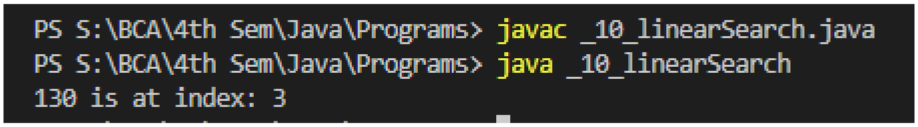


```
PS S:\BCA\4th Sem\Java\Programs> javac _08_bubble_sort.java
PS S:\BCA\4th Sem\Java\Programs> java _08_bubble_sort
Sorted Array in Ascending Order:
0
1
25
34
35
```

9. Searching Program

```
public class _10_linearSearch {

public static int linearSearch(int[] arr, int element){

for(int i=0;i<arr.length;i++){

if(arr[i] == element){

return i;

}

}

return -1;

}
public static void main(String a[]){

int[] a1= {100, 110,120, 130, 140, 150, 180};

int element = 130;

System.out.println(element +" is at index: " + linearSearch(a1, element));

}


}
```

Output:

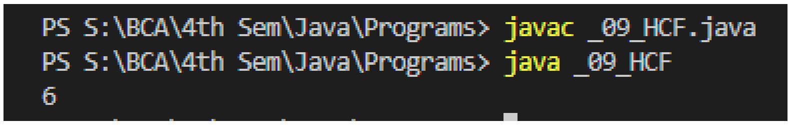


```
PS S:\BCA\4th Sem\Java\Programs> javac _10_linearSearch.java
PS S:\BCA\4th Sem\Java\Programs> java _10_linearSearch
130 is at index: 3
```

10. Program to find HCF of two numbers

```
public class _09_HCF {

static void HCF(int n1, int n2){

int hcf = 0;


for(int i = 1; i <= Math.min(n1, n2); i++){

if( n1%i == 0 && n2%i == 0){

hcf = i;

}

}
System.out.println(hcf);

}

public static void main(String[] args) {

HCF(12, 18);

}

}
```

Output:

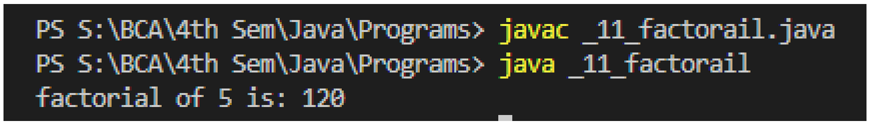


```
PS S:\BCA\4th Sem\Java\Programs> javac _09_HCF.java
PS S:\BCA\4th Sem\Java\Programs> java _09_HCF
6
```

11. Program to find the factorial of the number.

```
public class _11_factorail {

public static int factorial(int n){

if (n==1 || n==0){

return 1;

}

return n * factorial(n-1);

}

public static void main(String[] args) {

int n = 5;


System.out.println("factorial of " + n + " is: " + factorial(n));
}

}
```

Output:

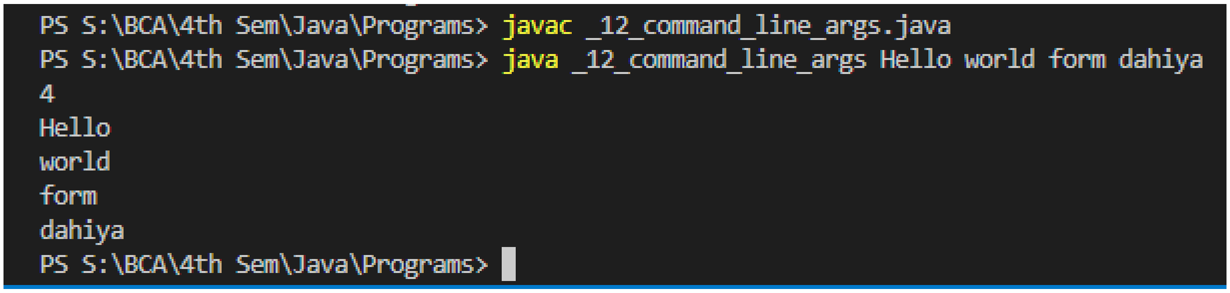


```
PS S:\BCA\4th Sem\Java\Programs> javac _11_factorail.java
PS S:\BCA\4th Sem\Java\Programs> java _11_factorail
factorial of 5 is: 120
```

12. Program for Command Line Arguments.

```
public class _12_command_line_args {

public static void main(String args[]){

System.out.println(args.length);

for(int i=0;i<args.length;i++)

System.out.println(args[i]);

}

}
```

OUTPUT:

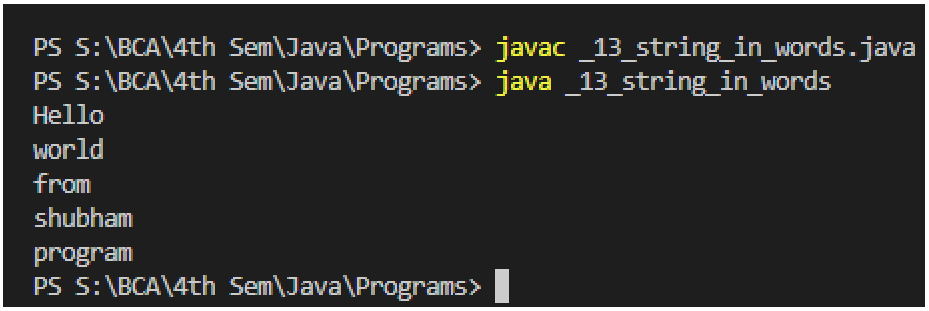


```
PS S:\BCA\4th Sem\Java\Programs> javac _12_command_line_args.java
PS S:\BCA\4th Sem\Java\Programs> java _12_command_line_args Hello world form dahiya
4
Hello
world
form
dahiya
PS S:\BCA\4th Sem\Java\Programs>
```

13. Program to split string to words:

```
public class _13_string_in_words{

static void splitString(String str){

int i =0;

for( ; i<str.length(); i++){

if(str.charAt(i) == ' '){

System.out.println();

continue;

}

System.out.print(str.charAt(i));

}

}

public static void main(String[] args){

String a = "Hello world from shubham program";

splitString(a);

}

}
```

OUTPUT:

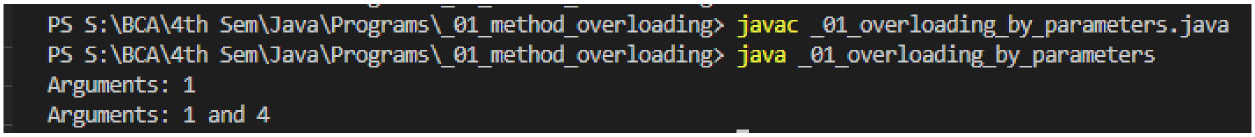


```
PS S:\BCA\4th Sem\Java\Programs> javac _13_string_in_words.java
PS S:\BCA\4th Sem\Java\Programs> java _13_string_in_words
Hello
world
from
shubham
program
PS S:\BCA\4th Sem\Java\Programs>
```

14. Program to overload methods by parameters.

```
//method overloading by parameters


public class _01_overloading_by_parameters {

private static void display(int a){

System.out.println("Arguments: " + a);

}


private static void display(int a, int b){

System.out.println("Arguments: " + a + " and " + b);

}


public static void main(String[] args) {

display(1);

display(1, 4);

}


}
```

Output:

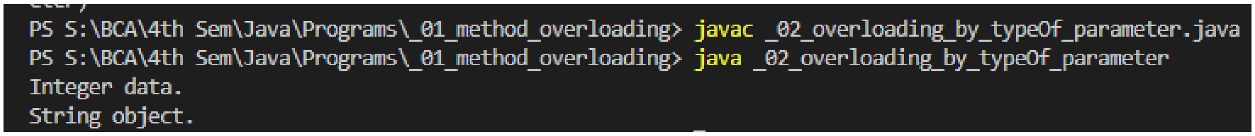


```
PS S:\BCA\4th Sem\Java\Programs\_01_method_overloading> javac _01_overloading_by_parameters.java
PS S:\BCA\4th Sem\Java\Programs\_01_method_overloading> java _01_overloading_by_parameters
Arguments: 1
Arguments: 1 and 4
```

15. Program to overload methods on basis of type of parameters.

```
public class _02_overloading_by_typeOf_parameter {
// this method accepts int
private static void display(int a){
System.out.println("Integer data.");
}

// this method accepts String object
private static void display(String a){
System.out.println("String object.");
}

public static void main(String[] args) {
display(1);
display("Hello");
}

}
```

Output:

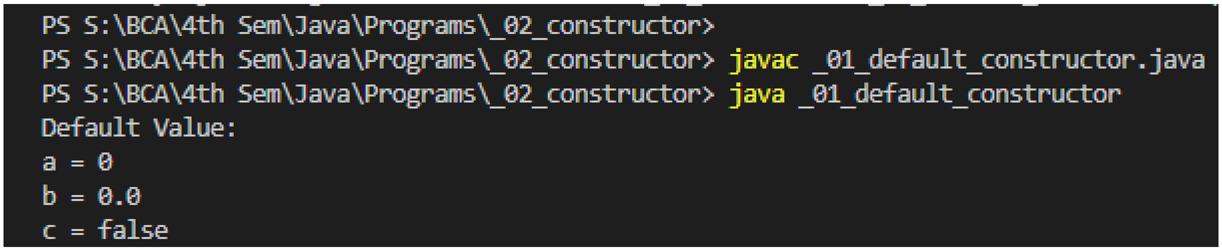


```
PS S:\BCA\4th Sem\Java\Programs\_01_method_overloading> javac _02_overloading_by_typeOf_parameter.java
PS S:\BCA\4th Sem\Java\Programs\_01_method_overloading> java _02_overloading_by_typeOf_parameter
Integer data.
String object.
```

16. Default constructors Program.

```
class Main{

int a;

double b;

boolean c;

}

public class _01_default_constructor {


public static void main(String[] args) {


// A default constructor is called

Main obj = new Main();


System.out.println("Default Value:");

System.out.println("a = " + obj.a);

System.out.println("b = " + obj.b);

System.out.println("c = " + obj.c);

}


}
```

Output:

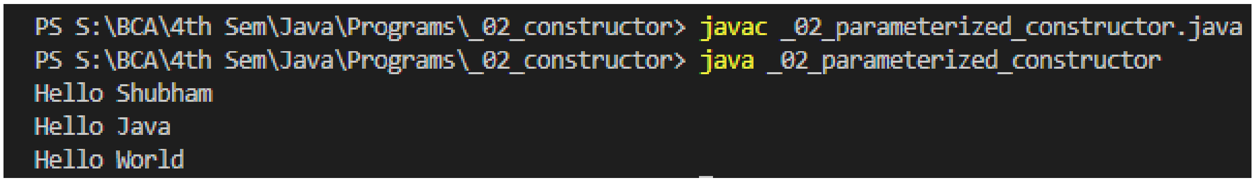


```
PS S:\BCA\4th Sem\Java\Programs\_02_constructor>
PS S:\BCA\4th Sem\Java\Programs\_02_constructor> javac _01_default_constructor.java
PS S:\BCA\4th Sem\Java\Programs\_02_constructor> java _01_default_constructor
Default Value:
a = 0
b = 0.0
c = false
```

17. Parameterized Constructor Program.

```
class Main {

String name;

// constructor accepting single value
Main(String n) {
name = n;
System.out.println("Hello " + name);
}
}

public class _02_parameterized_constructor {

public static void main(String[] args) {

// call constructor by passing a single value
Main obj1 = new Main("Shubham ");
Main obj2 = new Main("Java");
Main obj3 = new Main("World");
}
}
```

Output:

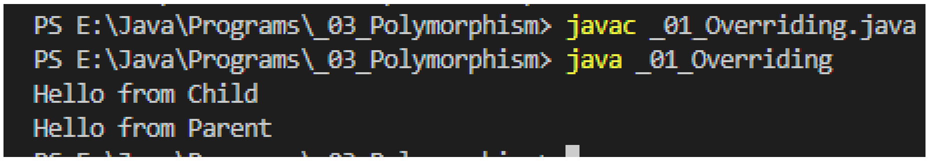


```
PS S:\BCA\4th Sem\Java\Programs\_02_constructor> javac _02_parameterized_constructor.java
PS S:\BCA\4th Sem\Java\Programs\_02_constructor> java _02_parameterized_constructor
Hello Shubham
Hello Java
Hello World
```

18. Overriding in Polymorphism Program.

```
class Parent {
public void sayHello() {
System.out.println("Hello from Parent");
}
}

class Child extends Parent {
@Override
public void sayHello() {
System.out.println("Hello from Child");
}
}

public class _01_Overriding {
public static void main(String[] args) {

// create an object of Child class
Child j1 = new Child();
j1.sayHello();

// create an object of Parent class
Parent l1 = new Parent();
l1.sayHello();
}
}
```

Output:

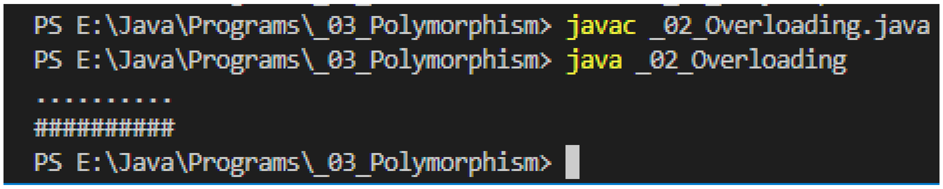


```
PS E:\Java\Programs\_03_Polymorphism> javac _01_Overriding.java
PS E:\Java\Programs\_03_Polymorphism> java _01_Overriding
Hello from Child
Hello from Parent
```

19. Overloading in Polymorphism Program.

```
class Pattern {

// method without parameter
public void display() {
for (int i = 0; i < 10; i++) {
System.out.print(".");
}
}

// method with single parameter
public void display(char symbol) {
for (int i = 0; i < 10; i++) {
System.out.print(symbol);
}
}
}

public class _02_Overloading {
public static void main(String[] args) {
Pattern d1 = new Pattern();

d1.display();
System.out.println();
d1.display('#');
}
}
```

Output:



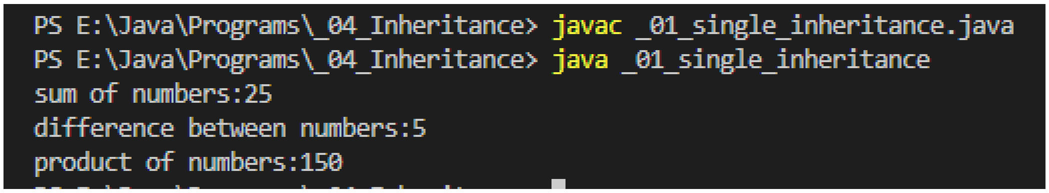
```
PS E:\Java\Programs\_03_Polymorphism> javac _02_Overloading.java
PS E:\Java\Programs\_03_Polymorphism> java _02_Overloading
..........
##########
PS E:\Java\Programs\_03_Polymorphism>
```

20. Single Inheritance

```
class Add_Sub {

int result;


public void addition(int a, int b) {

result = a + b;

System.out.println("sum of numbers:" + result);

}


public void Subtraction(int a, int b) {

result = a - b;

System.out.println("difference between numbers:" + result);

}

}


//inherited class

class Add_Sub_Mul extends Add_Sub {

public void multiplication(int a, int b) {
```

```
result = a * b;

System.out.println("product of numbers:" + result);

}

}


public class _01_single_inheritance {


public static void main(String args[]) {

int a = 15, b = 10;

Add_Sub_Mul obj = new Add_Sub_Mul();

obj.addition(a, b);

obj.Subtraction(a, b);

obj.multiplication(a, b);

}

}
```

<u>Output:</u>

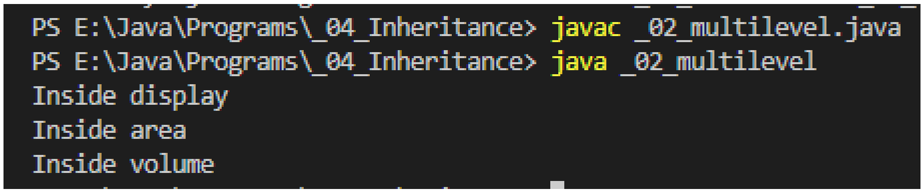


```
PS E:\Java\Programs\_04_Inheritance> javac _01_single_inheritance.java
PS E:\Java\Programs\_04_Inheritance> java _01_single_inheritance
sum of numbers:25
difference between numbers:5
product of numbers:150
```

21. Multilevel Inheritance

```
class Shape {
public void display() {
System.out.println("Inside display");
}
}
class Rectangle extends Shape {
public void area() {
System.out.println("Inside area");
}
}
class Cube extends Rectangle {
public void volume() {
System.out.println("Inside volume");
}
}

public class _02_multilevel {
public static void main(String[] arguments) {
Cube cube = new Cube();
cube.display();
cube.area();
cube.volume();
}
}
```

Output:



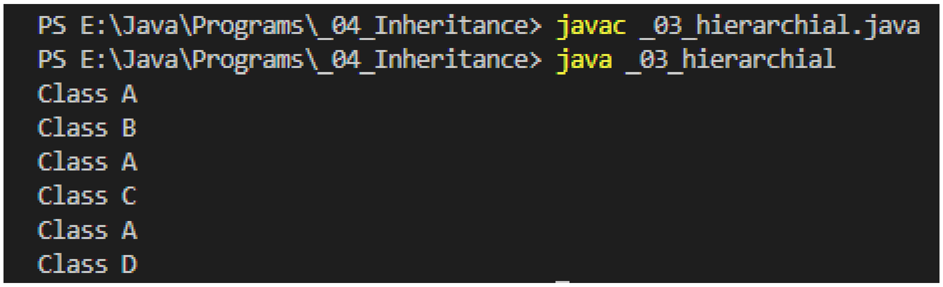
```
PS E:\Java\Programs\_04_Inheritance> javac _02_multilevel.java
PS E:\Java\Programs\_04_Inheritance> java _02_multilevel
Inside display
Inside area
Inside volume
```

22. Hierarchial Inheritance

```
class A {
   public void printA() { System.out.println("Class A"); }
}

class B extends A {
   public void printB() { System.out.println("Class B"); }
}

class C extends A {
   public void printC() { System.out.println("Class C"); }
}
```

```
class D extends A {
    public void printD() { System.out.println("Class D"); }
}

public class _03_hierarchial {
    public static void main(String[] args)
    {
        B objB = new B();
        objB.printA();
        objB.printB();

        C objC = new C();
        objC.printA();
        objC.printC();

        D objD = new D();
        objD.printA();
        objD.printD();
    }
}
```

Output:



```
PS E:\Java\Programs\_04_Inheritance> javac _03_hierarchial.java
PS E:\Java\Programs\_04_Inheritance> java _03_hierarchial
Class A
Class B
Class A
Class C
Class A
Class D
```

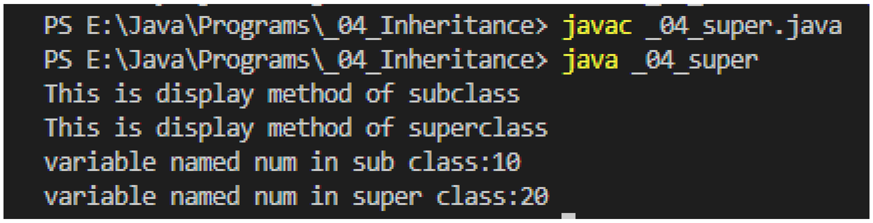
23. Super Keyword in Inheritance.

```
class Super_class {

int num = 20;


// display method of superclass

public void display() {

System.out.println("This is display method of superclass");

}

}


class Sub_class extends Super_class {

int num = 10;


// display method of sub class

public void display() {

System.out.println("This is display method of subclass");
```

```
}

public void my_method() {
// Instantiating subclass
Sub_class sub = new Sub_class();

// Invoking the display() method of sub class
sub.display();

// Invoking the display() method of superclass
super.display();

// printing the value of variable num of subclass
System.out.println("variable named num in sub class:"+ sub.num);

// printing the value of variable num of superclass
System.out.println("variable named num in super class:"+ super.num);
}
}

public class _04_super {
public static void main(String args[]) {
Sub_class obj = new Sub_class();
obj.my_method();
```

```
}

}
```

Output:

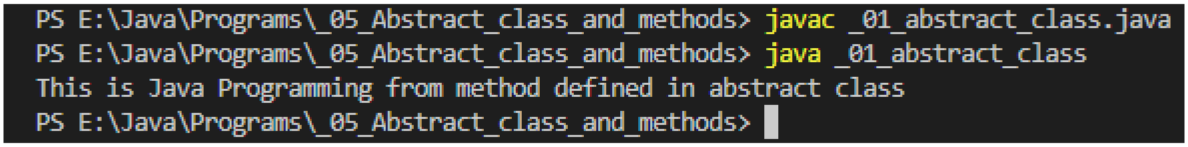


```
PS E:\Java\Programs\_04_Inheritance> javac _04_super.java
PS E:\Java\Programs\_04_Inheritance> java _04_super
This is display method of subclass
This is display method of superclass
variable named num in sub class:10
variable named num in super class:20
```

24. Program of Abstract Class.

```
abstract class abstractClass {


// method of abstract class

public void display() {

System.out.println("This is Java Programming from method defined in abstract class");

}

}


class subclass extends abstractClass {


public subclass() {

display();

}
}


public class _01_abstract_class {

public static void main(String[] args) {

subclass obj = new subclass();

}

}
```

Output:

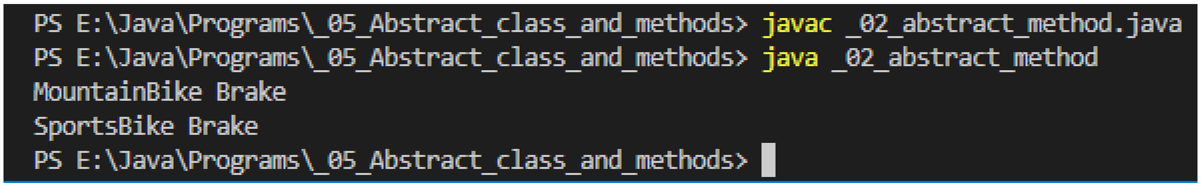


```
PS E:\Java\Programs\_05_Abstract_class_and_methods> javac _01_abstract_class.java
PS E:\Java\Programs\_05_Abstract_class_and_methods> java _01_abstract_class
This is Java Programming from method defined in abstract class
PS E:\Java\Programs\_05_Abstract_class_and_methods> 
```

25. Program of Abstract Method.

```
abstract class MotorBike {

abstract void brake();

}


class SportsBike extends MotorBike {


// implementation of abstract method

public void brake() {

System.out.println("SportsBike Brake");

}
}

class MountainBike extends MotorBike {

// implementation of abstract method
public void brake() {
System.out.println("MountainBike Brake");
}
}

public class _02_abstract_method {
public static void main(String[] args) {
MountainBike obj1 = new MountainBike();
obj1.brake();
SportsBike obj2 = new SportsBike();
obj2.brake();
}
}
```

Output:

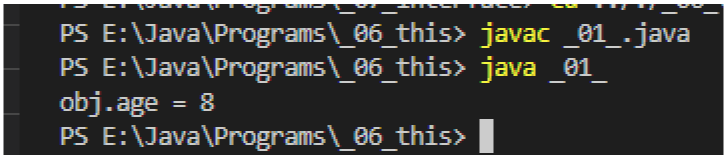


```
PS E:\Java\Programs\_05_Abstract_class_and_methods> javac _02_abstract_method.java
PS E:\Java\Programs\_05_Abstract_class_and_methods> java _02_abstract_method
MountainBike Brake
SportsBike Brake
PS E:\Java\Programs\_05_Abstract_class_and_methods>
```

26. Program for this keyword.

```
class C1 {


int age;

C1(int age){

this.age = age;

}

}

public class _01_ {

public static void main(String[] args) {

C1 obj = new C1(8);

System.out.println("obj.age = " + obj.age);

}

}
```

Output:

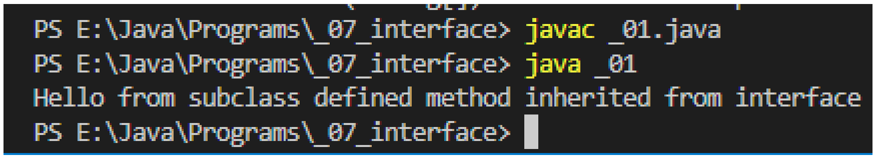


```
PS E:\Java\Programs\_06_this> javac _01_.java
PS E:\Java\Programs\_06_this> java _01_
obj.age = 8
PS E:\Java\Programs\_06_this>
```

27. Program for interface in java.

```
interface printable{

void print();

}

class Subclass implements printable{

public void print(){System.out.println("Hello from subclass defined method inherited from interface");}

}

public class _01 {

public static void main(String args[]){

Subclass obj = new Subclass();

obj.print();

}

}
```

Output:



```
PS E:\Java\Programs\_07_interface> javac _01.java
PS E:\Java\Programs\_07_interface> java _01
Hello from subclass defined method inherited from interface
PS E:\Java\Programs\_07_interface>
```

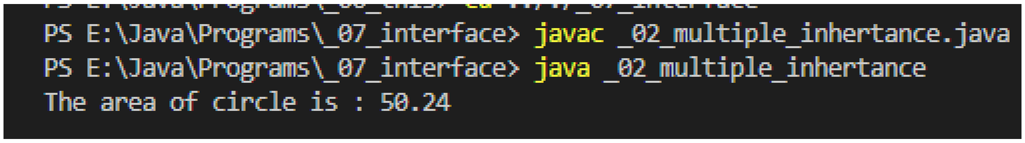
28. Program of Inheriting Multiple Interface.

```
//calculate area of the circle using Interface class.
```

```
interface get{                  //creating interface get and declaring a method inside it.

void get_r(int r);

}


interface ar{                   //creating interface ar and declaring a method inside it.

void area();

}


class calc implements get,ar{       //importing interface using "implements"
keyword.

final float pi=3.14f;


float r,ar;


public void get_r(int r){

this.r= r;                          //for taking input from user.

}

public void area(){

ar=pi*r*r;                               //calculating area using formula.

System.out.println("The area of circle is : " + ar);

}

}


class _02_multiple_inhertance{

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

```
calc obj=new calc();           //creating object using derived class.

obj.get_r(4);                  //calling get_r function using object.

obj.area();                    //calling area function using object.


System.out.println("");


get obj1=new calc();           //creating object using the interface class.

obj1.get_r(6);                 //calling get_r function using object but we can't call the
other methods available in the calc because get interface has only get_r function.

}

}
```

<u>Output:</u>

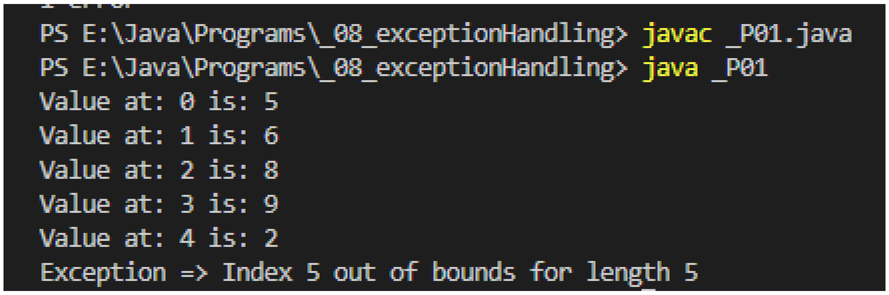


```
PS E:\Java\Programs\_06_this> cd ..\..\_07_interface
PS E:\Java\Programs\_07_interface> javac _02_multiple_inhertance.java
PS E:\Java\Programs\_07_interface> java _02_multiple_inhertance
The area of circle is : 50.24
```

29. Exception Handling using try-catch

```
public class _P01 {

public static void main(String[] args) {

int[] arr= {5, 6, 8, 9, 2};

try {

for (int i = 0; i < 7; i++) {

System.out.println("Value at: " + i + " is: " + arr[i]);
}

}

catch (Exception e) {

System.out.println("Exception => " + e.getMessage());

}

}

}
```

Output:

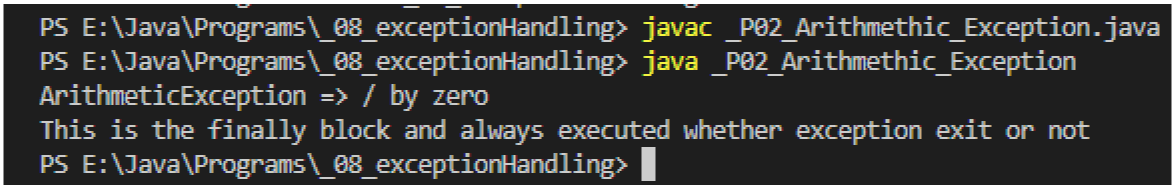


```
PS E:\Java\Programs\_08_exceptionHandling> javac _P01.java
PS E:\Java\Programs\_08_exceptionHandling> java _P01
Value at: 0 is: 5
Value at: 1 is: 6
Value at: 2 is: 8
Value at: 3 is: 9
Value at: 4 is: 2
Exception => Index 5 out of bounds for length 5
```

30. Arithmetic Exception using try-catch and finally block.

```
public class _P02_Arithmethic_Exception {

public static void main(String[] args) {

try {

// code that generates exception

int result = 5 / 0;

}
catch (ArithmeticException e) {

System.out.println("ArithmeticException => " + e.getMessage());

}


finally {

System.out.println("This is the finally block and always executed whether exception exit or not");

}

}

}
```

Output:

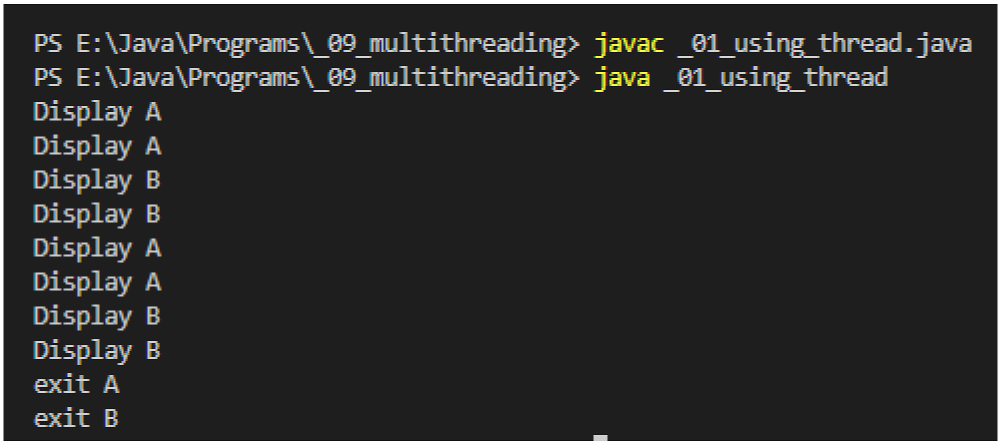


```
PS E:\Java\Programs\_08_exceptionHandling> javac _P02_Arithmethic_Exception.java
PS E:\Java\Programs\_08_exceptionHandling> java _P02_Arithmethic_Exception
ArithmeticException => / by zero
This is the finally block and always executed whether exception exit or not
PS E:\Java\Programs\_08_exceptionHandling>
```

31. Multithreading using Thread

```
class A extends Thread{

public void run(){

for(int i = 1; i<5; i++){

System.out.println("Display A");

}

System.out.println("exit A");
}
}

class B extends Thread{
public void run(){
for(int i = 1; i<5; i++){
System.out.println("Display B");
}
System.out.println("exit B");

}
}

class _01_using_thread{
public static void main(String[] args){

A obj1 = new A();
B obj2 = new B();

obj1.start();
obj2.start();
}

}
```

Output:

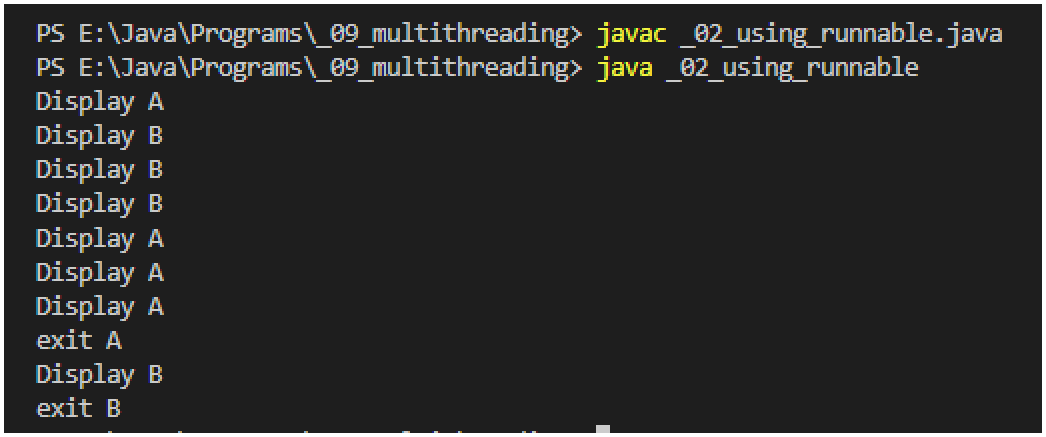


```
PS E:\Java\Programs\_09_multithreading> javac _01_using_thread.java
PS E:\Java\Programs\_09_multithreading> java _01_using_thread
Display A
Display A
Display B
Display B
Display A
Display A
Display B
Display B
exit A
exit B
```

32. Multithreading using runnable

```
class A implements Runnable{
public void run(){
for(int i = 1; i<5; i++){
System.out.println("Display A");
}
System.out.println("exit A");

}
}

class B implements Runnable{
public void run(){
for(int i = 1; i<5; i++){
System.out.println("Display B");
}
System.out.println("exit B");
}
}


class _02_using_runnable{
public static void main(String[] args){


Thread obj1 = new Thread (new A());
Thread obj2 = new Thread(new B());


obj1.start();
obj2.start();
}


}
```

<u>Output:</u>

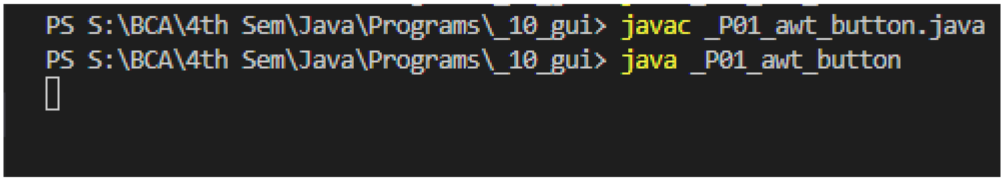


```
PS E:\Java\Programs\_09_multithreading> javac _02_using_runnable.java
PS E:\Java\Programs\_09_multithreading> java _02_using_runnable
Display A
Display B
Display B
Display B
Display A
Display A
Display A
exit A
Display B
exit B
```

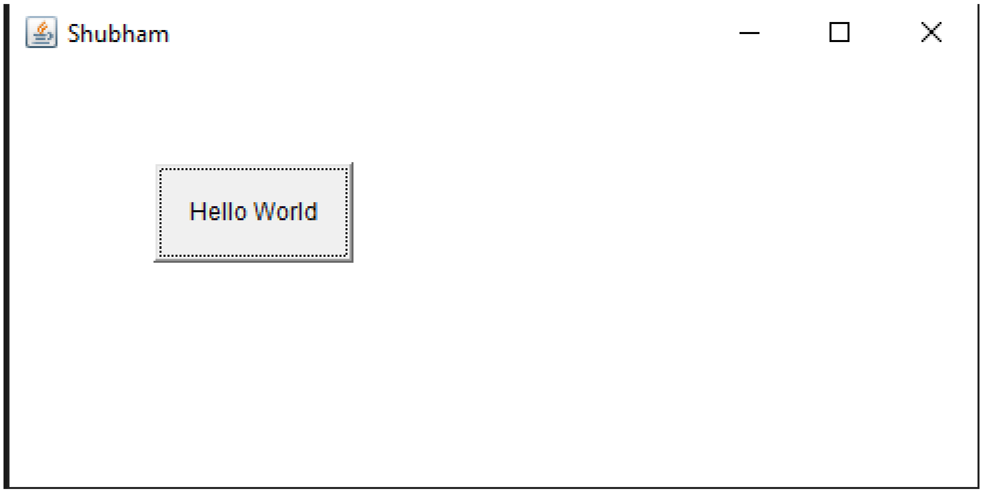
33. Program for awt button.

```
import java.awt.*;


class awtButton{
public awtButton()
{
Frame f = new Frame();
Button btn=new Button("Hello World");
btn.setBounds(80, 80, 100, 50);
//adding Button.
f.add(btn);
//setting size of frame.
f.setSize(800, 250);
// frame title
f.setTitle("Shubham");
f.setLayout(null);
f.setVisible(true);                //set frame visibility true.
}
}
public class _P01_awt_button {
public static void main(String[] args) {
awtButton awt = new awtButton();    //creating frame.
}
}
```

OUTPUT:



```
PS S:\BCA\4th Sem\Java\Programs\_10_gui> javac _P01_awt_button.java
PS S:\BCA\4th Sem\Java\Programs\_10_gui> java _P01_awt_button
```

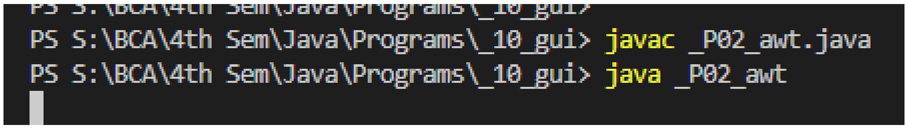


34. Program for AWT GUI extending Frame class.

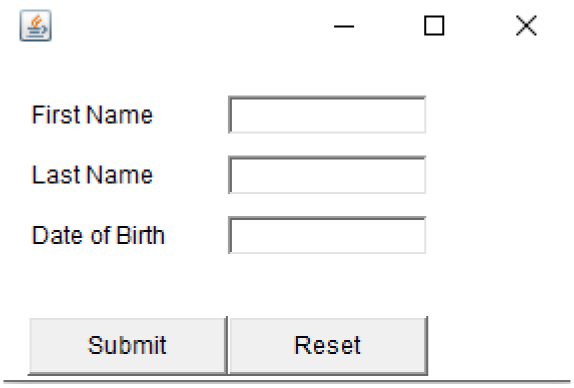
```
import java.awt.*;

class Awt extends Frame{

Awt(){

Label f_name = new Label("First Name");

f_name.setBounds(20, 50, 80, 20);


Label l_name = new Label("Last Name");

l_name.setBounds(20, 80, 80, 20);


Label dob = new Label("Date of Birth");
```

```
dob.setBounds(20, 110, 80, 20);

TextField f_ameTF = new TextField();
f_ameTF.setBounds(120, 50, 100, 20);

TextField l_NameTF = new TextField();
l_NameTF.setBounds(120, 80, 100, 20);

TextField dobTF = new TextField();
dobTF.setBounds(120, 110, 100, 20);

Button sbmt = new Button("Submit");
sbmt.setBounds(20, 160, 100, 30);

Button reset = new Button("Reset");
reset.setBounds(120,160,100,30);

add(f_name);
add(l_name);
add(dob);
add(f_ameTF);
add(l_NameTF);
add(dobTF);
add(sbmt);
add(reset);


setSize(300,200);
setLayout(null);
setVisible(true);
}
}
public class _P02_awt extends Frame {
public static void main(String[] args) {
Awt awt = new Awt();
}
}
```

OUTPUT:



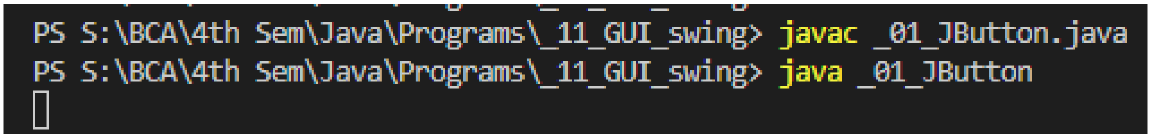
```
PS S:\BCA\4th Sem\Java\Programs\_10_gui>
PS S:\BCA\4th Sem\Java\Programs\_10_gui> javac _P02_awt.java
PS S:\BCA\4th Sem\Java\Programs\_10_gui> java _P02_awt
```



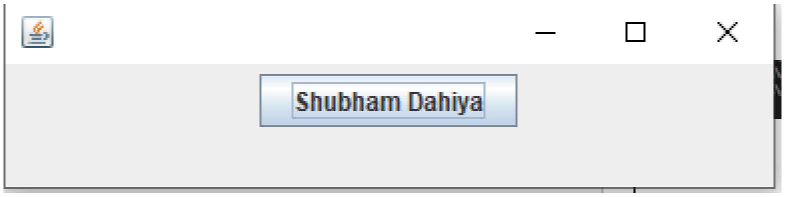
35. Swing JButton Program

```
import javax.swing.*;
import java.awt.event.*;
import java.awt.*;
public class _01_JButton extends JFrame
{
_01_JButton()
{
// Button.
JButton bt1 = new JButton("Shubham Dahiya");
//adding close operation --> Monica mam way
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setLayout(new FlowLayout());        //setting layout using FlowLayout object
setSize(400, 100);        // size of Jframe
//adding button to frame
add(bt1);

setVisible(true);
}
public static void main(String[] args)
{
new _01_JButton();
}
}
```

OUTPUT:



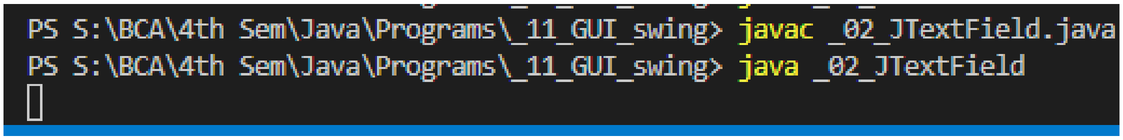
```
PS S:\BCA\4th Sem\Java\Programs\_11_GUI_swing> javac _01_JButton.java
PS S:\BCA\4th Sem\Java\Programs\_11_GUI_swing> java _01_JButton
```



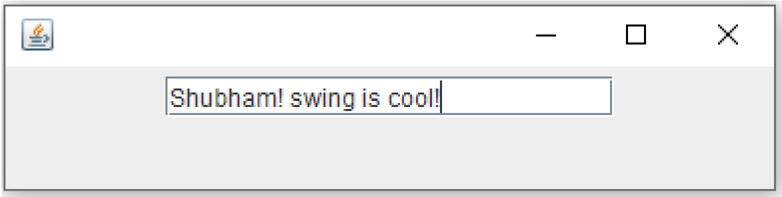
36. Swing JTextField Program

```
import javax.swing.*;
import java.awt.event.*;
import java.awt.*;
public class _02_JTextField extends JFrame
{
public _02_JTextField()
{
//creating JTextField.
JTextField jtf = new JTextField(20);
//adding JTextField to frame.
add(jtf);
setLayout(new FlowLayout());
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setSize(400, 100);
setVisible(true);
}
public static void main(String[] args)
{
new _02_JTextField();
}
}
```

OUTPUT:



```
PS S:\BCA\4th Sem\Java\Programs\_11_GUI_swing> javac _02_JTextField.java
PS S:\BCA\4th Sem\Java\Programs\_11_GUI_swing> java _02_JTextField
```

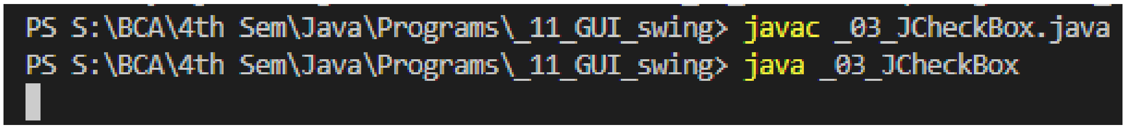


Shubham! swing is cool!

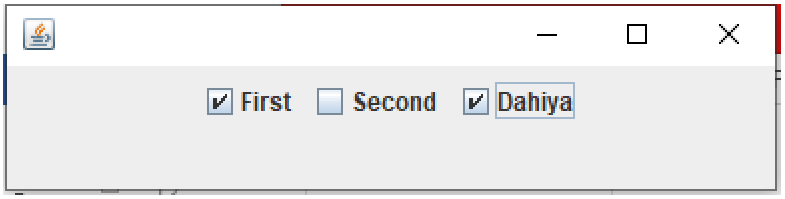
37. Swing JCheckBox Program

```
import javax.swing.*;
import java.awt.event.*;
import java.awt.*;
public class _03_JCheckBox extends JFrame
{
public _03_JCheckBox()
{
//creating JCheckBox.
JCheckBox jcb = new JCheckBox("First");
//adding JCheckBox to frame.
add(jcb);

jcb = new JCheckBox("Second");
add(jcb);

jcb = new JCheckBox("Dahiya");
add(jcb);

setLayout(new FlowLayout());
setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
setSize(400, 100);
setVisible(true);
}
public static void main(String[] args)
{
new _03_JCheckBox();
}
}
```

OUTPUT:



```
PS S:\BCA\4th Sem\Java\Programs\_11_GUI_swing> javac _03_JCheckBox.java
PS S:\BCA\4th Sem\Java\Programs\_11_GUI_swing> java _03_JCheckBox
```



☑ First ☐ Second ☑ Dahiya