**8. Write a program to implement Multilevel inheritance concept to read student details.**

**package** raksha;

**class** stu

{

**int** r;

**void** read(**int** roll)

{

r=roll;

}

}

**class** student **extends** stu

{

String name;

**void** readname(String n)

{

name=n;

}

}

**class** studetails **extends** student

{

String col;

**void** readcol(String c)

{

col=c;

}

**void** display()

{

System.***out***.println("Student roll num is :" +r);

System.***out***.println("Student name is :" +name);

System.***out***.println("college name is :" +col);

}

}

**class** TestInheritance

{

**public** **static** **void** main(String args[])

{

studetails s=**new** studetails();

s. read(1);

s.readname("Anil");

s.readcol("JSSPN");

s.display();

}

}

**OUTPUT**

Student roll num is :1

Student name is :Anil

college name is :JSSPN

**9. a. Write a program to execute that uses static binding by implementing method overloading.**

**package raksha;**

**class** Adder{

**int** add(**int** a,**int** b)

{

**return** a+b;

}

**double** add(**double** a,**double** b,**double** c)

{

**return** a+b+c;

}

}

**public** **class** TestOverloading {

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

Adder a=**new** Adder();

System.***out***.println(a.add(11,11));

System.***out***.println(a.add(12.3,12.6,10.0));

}

}

**OUTPUT**

22

34.9

**9. b. Write a program to execute that uses dynamic binding by implementing method overriding.**

**package raksha;**

**class** Vehicle

{

**void** run()

{

System.***out***.println("Vehicle is running");

}

}

**class** Bike2 **extends** Vehicle

{

**void** run()

{

System.***out***.println("Bike is running safely");

}

}

**class** override

{

**public** **static** **void** main(String args[])

{

Bike2 obj = **new** Bike2();

obj.run();

}

}

**OUTPUT**

Bike is running safely

**10. a. Write a program that uses abstract class to achieve abstraction**

**package raksha;**

**import** java.util.\*;

**abstract** **class** shape

{

**int** len,bre;

**abstract** **public** **void** printarea();

}

**class** rectangle **extends** shape

{

**public** **int** rectarea;

**public** **void** printarea()

{

Scanner s=**new** Scanner(System.***in***);

System.***out***.println("enter the length and breadth of rectangle");

len=s.nextInt();

bre=s.nextInt();

rectarea=len\*bre;

System.***out***.println("Length of rectangle "+len +"breadth of rectangle "+bre);

System.***out***.println("The area of rectangle is:"+rectarea);

}

}

**class** shapeclass

{

**public** **static** **void** main(String[] args)

{

rectangle r=**new** rectangle();

r.printarea();

}

}

**OUTPUT**

enter the length and breadth of rectangle

20

10

Length of rectangle 20 breadth of rectangle 10

The area of rectangle is:200

**10. b. Write a program that uses interface to achieve abstraction**

**package raksha;**

**interface** Empdetails

{

String ***name***="Anil";

**int** ***empid***=111;

**public** **void** commondetails();

**public** **abstract** **void** confidentialdetails(**int** s,String p);

}

**class** HR **implements** Empdetails

{

**private** **int** salary;

**private** String performance;

**public** **void** commondetails()

{

System.***out***.println("Name: "+***name***);

System.***out***.println("emp\_ID: "+***empid***);

}

**public** **void** confidentialdetails(**int** s,String p)

{

**this**.salary=s;

**this**.performance=p;

System.***out***.println("salary: "+salary);

System.***out***.println("performance: "+performance);

}

}

**class** emp

{

**public** **static** **void** main(String[] args)

{

HR hr =**new** HR();

hr.commondetails();

hr.confidentialdetails(5000,"good");

}

}

**OUTPUT**

Name: Anil

emp\_ID: 111

salary: 5000

performance: good

**11.a. Write a program to handles checked and unchecked exceptions**

**Checked exceptions**

**package raksha;**

**public** **class** MultipleCatchBlock1

{

**public** **static** **void** main(String[] args)

{

**try**

{

**int** a[]=**new** **int**[5];

a[5]=30/0;

}

**catch**(ArithmeticException e)

{

System.***out***.println("Arithmetic Exception occurs");

}

**catch**(ArrayIndexOutOfBoundsException e)

{

System.***out***.println("ArrayIndexOutOfBounds Exception occurs");

}

**finally**

{

System.***out***.println("Finally block is always executed");

}

System.***out***.println("rest of the code");

}

}

**OUTPUT**

Arithmetic Exception occurs

Finally block is always executed

rest of the code

**Unchecked exceptions**

**package raksha;**

**public** **class** MultipleCatchBlock1

{

**public** **static** **void** main(String[] args)

{

**int** a[]=**new** **int**[5];

a[5]=30/0;

System.***out***.println(a[5]);

}

}

**OUTPUT**

Exception in thread "main" java.lang.ArithmeticException: / by zero

at anuharshi.MultipleCatchBlock1.main(MultipleCatchBlock1.java:8)

**11.b. Write a program to read the content of the file and write the content to another file import.**

Create 2 text files (for ex: x.txt and y.txt) in the location(path) were source file has been saved. Source file with content and Destination file empty.

**Program:To Read File**

**package raksha;**

**import** java.io.\*;

**public** **class** FileR {

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

**try**

{

FileReader f=**new** FileReader("C:\\Users\\CS 2\\eclipse-workspace\\anuharshi\\src\\a.txt");

**int** i;

**while**((i=f.read())!=-1)

System.***out***.print((**char**)i);

f.close();

}

**catch**(Exception e)

{

System.***out***.println("Exception occured");

}

}

}

**OUTPUT**

HELLO I AM RAKSHA

**Program: Writer File**

**package raksha;**

**import** java.io.\*;

**public** **class** FileWriterExample {

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

**try**

{

FileWriter f=**new** FileWriter("C:\\Users\\CS 2\\eclipse-workspace\\anuharshi\\src\\b.txt");

f.write("Welcome To Java");

f.close();

}

**catch**(Exception e)

{

System.***out***.println(e);

}

System.***out***.println("Success");

}

}

**OUTPUT**

Success

Inside The Text File

Welcome To Java