Part B

11) User defined package

```
package userdefined.pack;

public class Square_cube {
public int Cube(int r) {
return r*r*r;
}
public int Square(int r) {
return r*r;
}

}
```

```
package userdefined.pack1;
import java.util.Scanner;
import userdefined.pack.Square_cube;
class Calculate {
public static void main(String[] args) {
Scanner sc = new Scanner (System.in);
System.out.println("Enter the value");
int val = sc.nextInt();
Square_cube sq = new Square_cube();
int c = sq.Cube(val);
int p = sq.Square(val);
System.out.println("Cube"+c);
System.out.println("Square"+p);
}
}
```

12) Abstract class and method

```
package JP;
abstract class Figure {
double dim1;
double dim2;
Figure(double a, double b) {
dim1 = a;
dim2 = b;
}
abstract double area();
}
class Rectangle extends Figure {
Rectangle(double a, double b) {
super(a, b);
}
double area() {
System.out.println("Inside Area for Rectangle.");
return dim1* dim2;
}
}
class Triangle extends Figure {
Triangle(double a, double b) {
```

```
super(a, b);
}
double area() {
System.out.println("Inside Area for Triangle.");
return dim1* dim2/2;
}
}
public class AbstractAreas {
public static void main(String[] args) {
Rectangle r = new Rectangle(9, 5);
Triangle t = new Triangle(10, 8);
Figure figref;
figref = r;
System.out.println("Area is " + figref.area());
figref = t;
System.out.println("Area is " + figref.area());
}
}
```

13) Array Group

```
package JP;
import java.io.*;
class Employee {
int id;
String name;
Employee (int i, String n)
{
id=i;
name = n;
}
void displayData()
{
System.out.println(id+"\t"+name);
}
}
public class ArrayGroup {
public static void main(String args[]) throws IOException {
BufferedReader br = new BufferedReader (new
InputStreamReader(System.in));
Employee arr[] = new Employee [5];
for (int i=0; i<5; i++)
{
System.out.print("Enter id: ");
int id = Integer.parseInt(br.readLine());
System.out.print("Enter name: ");
String name = br.readLine();
arr[i] = new Employee (id,name);
}
System.out.println("\nThe employee data is: ");
for(int i=0; i<arr.length; i++)
arr[i].displayData();
}
}
```

15) MyException

```
package JP;
import java.util.*;
class AmountLessThanRequiredException extends Exception {
String msg;
AmountLessThanRequiredException(String msg) {
super(msg);
}
}
public class MyException {
public static void main(String[] args) {
System.out.println("Enter the amount");
Scanner sc=new Scanner(System.in);
int withdrawAmount = sc.nextInt();
try {
if(withdrawAmount<=0) {
throw new AmountLessThanRequiredException("Entered amount less than minimum
withdrawal limit");
}
System.out.println("WithDrawn amount is "+withdrawAmount);
}
catch(AmountLessThanRequiredException ex) {
System.out.println("Userdefined exception");
System.out.println(ex.getMessage());
}
}
}
```

17)Thread

```
package JP;
class Thread1 extends Thread
{
public void run()
{
while(true)
{
System.out.println("Good morning");
try
{
Thread.sleep(1000);
}
catch(InterruptedException e)
{
}
}
}
}
class Thread2 extends Thread
{
public void run()
{
while(true)
{
System.out.println("Hello");
try
{
```

```
Thread.sleep(2000);
}
catch(InterruptedException e)
{
}
}
}
}
class Thread3 extends Thread
{
public void run()
{
while(true)
{
System.out.println("Welcome");
try
{
Thread.sleep(3000);
}
catch(InterruptedException e)
{
}
}
}
}
public class ThreadPgm {
public static void main(String[] args) {
Thread1 t1 =new Thread1();
Thread2 t2=new Thread2();
Thread3 t3=new Thread3();
System.out.println();
t1.start();
t2.start();
t3.start();
}
}
```

18) File input / output

```
package JP;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;
public class FileInputSt {
public static void main(String[] args) throws IOException {
File file=new File("C:\\users\\HP\\Desktop\\input.txt");
boolean result= file.createNewFile();
System.out.println("File created ");
String data= "Writing Sample data to input text file.";
try
{
FileOutputStream output = new FileOutputStream("C:\\Users\\HP\\Desktop\\input1.txt");
byte[] array = data.getBytes();
System.out.println("Writing data");
output.write(array);
output.close();
System.out.println("Written success");
System.out.println("------");
}
```

```
catch(Exception e) {
e.getStackTrace();
}
try
{
FileInputStream input = new FileInputStream("C:\\Users\\HP\\Desktop\\input1.txt");
System.out.println("Reading the Data from the file input: ");
System.out.println("Contents of file");
System.out.println("--------");
int i = input.read();
while(i!=-1){
System.out.print((char)i);
i=input.read();
}
input.close();
}
catch (Exception e)
{
e.getStackTrace();
}
}
}
```

20)Applet

```
package JP;
import java.applet.*;
import java.awt.Graphics;
import java.awt.*;
public class AppletLife1 extends Applet {
public void init() {
setBackground(Color.BLUE);
System.out.println("init() is invoked");
}
public void start() {
System.out.println("Start() is invoked");
}
public void paint(Graphics g) {
System.out.println("Paint() is invoked");
}
public void stop() {
System.out.println("Stop() is invoked");
}
public void destroy() {
System.out.println("Destroy() is invoked");
}
}
```

```
<!DOCTYPE html>
<html>
<head>
<title>Applet Example</title>
</head>
<body>
<applet code="AppletLife1.class" width="300" height="200">
Applet demo <code>applet</code> tag.
</applet>
</body>
</html>
```