Que 1:-

**object**hello {

**def**fahrenheittoCelsius(temp:Float):Float= {

**return** (temp-32)\*5/9;

}

**def**inchestometers(size:Float):Double= {

**return**size\*0.254;

}

**def**yeartodays(years:Int):Int= {

**return**years\*365;

}

**def**main (args: Array[*String*])

{

println("Kushagra Trivedi\nDS\n2015079");

println("Enter Temprature in Fahrenheit :- ")

**var**temp: Float =scala.io.StdIn.readFloat();

println("Temprature in Celsius is :- ");

println(fahrenheittoCelsius(temp));

println("Enter Size in Inches :- ");

**var**size :Float =scala.io.StdIn.readFloat();

println("Size in Meters is :- ");

println(inchestometers(size));

println("Enter No of Years :- ");

**var**years :Int =scala.io.StdIn.readInt();

println("No. of Days are :- ");

println(yeartodays(years));

}

}

Output :-

Kushagra Trivedi

DS

2015079

Enter Temprature in Fahrenheit :-

98

Temprature in Celsius is :-

36.666668

Enter Size in Inches :-

5.10

Size in Meters is :-

1.2953999757766723

Enter No of Years :-

2

No. of Days are :-

730

Que 2: -

**object**hello {

**def**main (args: Array[*String*])

{

println("Kushagra Trivedi\nDS\n2015079");

**val**div = (\_:Int)/(\_:Int);

**val**mul = (\_:Int)\*(\_:Int);

**val**add = (a:Int,b:Int)=>a+b;

**val**sub = (a:Int,b:Int)=>a-b;

**var**choice:Int=0;

println("Select Choice:-\n");

println("1.Addition\n2.Subtraction\n3.Multiplication\n4.Devision");

choice=scala.io.StdIn.readInt();

println("enter two variables");

**var**a :Int = scala.io.StdIn.readInt();

**var**b :Int = scala.io.StdIn.readInt();

**if**(choice==1)

println(add(a,b));

**elseif**(choice==2)

println(sub(a,b));

**elseif**(choice==3)

println(mul(a,b));

**elseif**(choice==4)

println(div(a,b));

**else**

println("wrong choice entered please try again");

}

}

Output :-

Kushagra Trivedi

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Select Choice:-

1.Addition

2.Subtraction

3.Multiplication

4.Devision

3

enter two variables

4

5

20

Que 3: -

**trait**Car{

**def**horn()

**def**break()

**def**go()

}

**trait**Truck{

**def**size()

}

**class**BigCar**extends**Car{

**def**horn(){

println("horned")

}

**def**break(){

println("breaked");

}

**def**go(){

println("going");

}

}

**class**CyberTruck**extends**Car**with**Truck{

**def**horn(){

println("peeeeep")

}

**def**break(){

println("stopped");

}

**def**go(){

println("brrrr");

}

**def**size(){

println("big size");

}

}

**object**hello {

println("Kushagra Trivedi\nDS\n2015079");

**def**main(args: Array[*String*]) {

**var**x = **new**CyberTruck();

**var**y = **new**BigCar();

x.horn();

x.break();

x.go();

x.size();

y.horn();

y.break();

y.go();

}

}

Output: -

Kushagra Trivedi

DS

2015079

peeeeep

stopped

brrrr

big size

horned

breaked

going

Que 4: -

**import**scala.annotation.tailrec;

**object**hello {

println("Kushagra Trivedi\nDS\n2015079");

**def**GCD(n: Int, m: Int): Int =

{

// tail recursion function defined

@tailrec**def**gcd(x:Int, y:Int): Int=

{

**if** (y==0) x

**else**gcd(y, x%y)

}

gcd(n, m)

}

**def**factorial(n: Int): Int =

{

// Using tail recursion

@tailrec**def**factorialAcc(acc: Int, n: Int): Int =

{

**if** (n<=1)

acc

**else**

factorialAcc(n\*acc, n-1)

}

factorialAcc(1, n)

}

**def**main(args: Array[*String*]) {

println(GCD(12, 18));

println(factorial(5));

}

}

Output: -

Kushagra Trivedi

DS

2015079

6

120

Que 5: -

**object**hello{

println("Kushagra Trivedi\nDS\n2015079");

**def**main(args: Array[*String*]){

**val**l1: *List*[*String*]=List("Name","Section","Roll")

println("head: "+l1.head)

println("Tail: "+l1.tail)

println("isEmpty: "+l1.isEmpty)

println("reverse: "+l1.reverse)

}

}

Output:-

Kushagra Trivedi

DS

2015079

head: Name

Tail: List(Section, Roll)

isEmpty: false

reverse: List(Roll, Section, Name)

Que 6: -

**object**hello{

println("Kushagra Trivedi\nDS\n2015079");

**def**main(args: Array[*String*]){

**val**l:*List*[Int]= List(10,20,30,30,30,60,50)

**val**l1=l.distinct

println("Orginal List: "+l)

println("(i) "+l1)

**val**first=l.indexOf(30)

println("(ii) First Occurence of 30: "+first)

println("(iii) Length :"+l.length)

**val**l2=l.sorted

println("(iv) Sorted List: "+l2)

println("(v) Sum of List: "+l.sum)

**val**s=l.toString()

println("(vi) String of List: "+s)

println("(vii) Min of List: "+l.min)

println("(vii) Max of List: "+l.max)

**val**last=l.lastIndexOf(30)

println("(ix) last Occurence of 30: "+last)

**val**m=l.zipWithIndex.map{ **case** (v,i) => (i,v)}.toMap

println("(x) Map: "+m)

}

}

Output:-

Kushagra Trivedi

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Orginal List: List(10, 20, 30, 30, 30, 60, 50)

(i) List(10, 20, 30, 60, 50)

(ii) First Occurence of 30: 2

(iii) Length :7

(iv) Sorted List: List(10, 20, 30, 30, 30, 50, 60)

(v) Sum of List: 230

(vi) String of List: List(10, 20, 30, 30, 30, 60, 50)

(vii) Min of List: 10

(vii) Max of List: 60

(ix) last Occurence of 30: 4

(x) Map: Map(0 -> 10, 5 -> 60, 1 -> 20, 6 -> 50, 2 -> 30, 3 -> 30, 4 -> 30)

Que 7: -

**object**hello {

println("Kushagra Trivedi\nDS\n2015079");

**def**main(args: Array[*String*]) {

**var**a = List(99.5,100.0,50.0,55.0,70.0,100,-1.0);

**var**b = List(10.0,20.0,30.0,40.0,50.0);

**var**c = a:::b;

println(c.min);

println(c.max);

}

}

Output:-

Kushagra Trivedi

DS

2015079

-1.0

100.0

Que 8: -

**object**hello {

println("Kushagra Trivedi\nDS\n2015079");

**def**main(args: Array[*String*]) {

**var**age = scala.io.StdIn.readInt();

**var**checkeligible =(age:Int)=>age>=18

**if**(checkeligible(age))

{

println("Eligible to vote");

}

**else**

{

println("Not eligible to vote");

}

}

}

Output:-

Kushagra Trivedi

DS

2015079

45

Eligible to vote

Que 9: -

**import**scala.collection.immutable.ListMap

**object**hello {

println("Kushagra Trivedi\nDS\n2015079");

**def**main(args: Array[*String*]): Unit = {

**val**mapIm = Map("Bill"->56,"Jonny"->87, "Tommy"->11, "Cheena"->14);

**val**res = ListMap(mapIm.toSeq.sortWith(\_.\_1> \_.\_1):\_\*);

print(res);

}

}

Output:-

Kushagra Trivedi

DS

2015079

ListMap(Tommy -> 11, Jonny -> 87, Cheena -> 14, Bill -> 56)

Que 10: -

**object**hello {

println("Kushagra Trivedi\nDS\n2015079");

**def**main(args: Array[*String*]) {

**val**sen = scala.io.StdIn.readLine()

**var**n=sen.length()

**if**(n<4)

{

println("Your sentence in upper case:"+sen.toUpperCase())

}

**else**

{

println("Your sentence in upper case: "+sen.takeRight(4).toUpperCase())

}

}

}

Output:-

Kushagra Trivedi

DS

2015079

My Name is Kushagra

Your sentence in upper case: agra