Assignment-1.

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Course: CTOOD

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1) List the keywords in Java.

abstract	boolean	break	byte
case	catch	char	class
continue	default	do	double
else	enum	extends	finally
float	for	if	implements
import	instanceof	int	interface
long	native	new	null
package	private	protected	public
return	short	static	strictfp
super	switch	synchronized	this
throw	throws	transient	try
void	volatile	while	

2) List of all the datatypes, sizes and ranges in Java.

Data type	Size	Description
byte	1 byte	stores whole numbers from -128 to 127
short	2 bytes	stores whole numbers from -32,768 to 32,767
int	4 bytes	whole numbers from -2,147,483,648 to 2,147,483,647
long	8 bytes	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
float	4 bytes	Stores fac. numbers (6 digits precision)
double	1 bit	Stores true/false values
boolean	1 bit	Stores true/false values
char	2 bytes	stores a single character

3) Write the Syntax of conditional statements and loops in Java with an example of each

Java has the following set of conditional statements.

(i) if
(ii) else
(iii) else-if
(iv) switch case

Example for 'if' conditional statement

```
public class Main {
    public static void main(String[] args) {
     if (20 >18)
            System.out.println("20 > 18");
     }
}
```

Output: 20 > 18

Example for 'if-else' conditional statement

```
public class Main {
    public static void main (String[] args) {
     int x = 12;
     if (x%2==0)
            System.out.println("Even");
     else
            system.out.println("Odd");
    }
}
```

(9)

Output: Even

Example for 'else-if' conditional statements

```
public class Main {
    public static void main(String[] args) {
        int x = -1;
        if (x>0)
            System.out.println(" > ");
        else if (x==0)
            System.out.println(" = ");
        else
            System.out.println(" < ");
    }
}
```

output: <

Short Hand if... Else (Ternary Operator)

```
public class Main {
    public static void main(String[] args) {
        int x=33;
        int res = (x>15) ? sout(1) : sout(0);
    }
}
```

Output: 1

Example for Java Switch Statements

```
public class Main {
    public static void main(String[] args) {
        int x = 2;
        switch (x) {
        case 1: sout("one");
                break;
        case 2: sout ("two");
                break;
        default: sout("ERROR");
    }
}
```

Output: One.

Java has 3 type of looping statements

(i) while loop
(ii) for loop
(iii) do while loop.

(3)

Example for 'while' loop in Java

```
public class whileloopDemo
{
    public static void main (String args[])
    {
        int x=1;
        while (x<=4)
        {
            System.out.println(x);
            x++;
        }
    }
}
```

Output: value of x 1
2
3
4

Example for 'for loop' in Java

```
class forloopDemo
{
    public static void main (String args[])
    {
        for(int x=2; x<=4; x++)
            System.out.println(x);
    }
}
```

output: 2
3
4

Example for 'do while' loop in Java

```
class dowhileloop
{
    public static void main(String args[])
    {
        int x=2;
        do{
            System.out.println(x);
            x++;
        }while(x<90);
    }
}
```

output: 21

(a)

4) Create a class student with id, marks for 3 ~~students~~ subjects, total as static variables, static method to compute the total, main method to print the student information. Modularize the code to class and package levels.

```
package com.DeepakReddy;
import java.util.Scanner;
public class Main {
    public static int add(int a, int b, int c) {
        return a,b,c;
    }
    public static void main (String[] args) {
        Scanner sc = new Scanner (System.in);
        int s1 = sc.nextInt();
        int s2 = sc.nextInt();
        int s3 = sc.nextInt();
        int total = add (s1, s2, s3);
        System.out.println(total);
    }
}.
```

5)

```
Public class Main {
    public static int add(int x, int y) {
        return x+y;
    }

    public static int add(int a, int b, int c) {
        return a+b+c;
    }

    public static int add(int a[])
    {
        int sum = 0;
        for(int i=0; i<a.length; i++)
        {
            sum += a[i];
        }
        return sum;
    }

    public static void main(String[] args) {
        int x=2, y=3, z=4;
        int [] a = {1,2,3,4,5};
        int res1 = add(x,y);
        System.out.println(res1);
        int res2 = add(x,y,z);
        System.out.println(res2);
        int res3 = add(a);
        System.out.println(res3);
    }
}
```

6)

```
import java.util.Scanner;
public class Main {
    public static int add(int x, int y) {
        return x+y;
    }
    public static int add(int a, int b, int c) {
        return a+b+c;
    }
    public stic int add(int a[])
    {
        int sum=0;
        for(int i=0; i<a.length; i++)
            sum += a[i];
        return sum;
    }
    public static void main(String[] args) {
        int x,y,z;
        int a[] = new int[5];
        System.out.print("enter x,y,z: ");
        x = sc.nextInt();
        y = sc.nextInt();
        z = sc.nextInt();
        System.out.println("enter the elements
        of array: ");
        for(int i=0; i<5; i++)
            a[i] = sc.nextInt();
```

```
int res1 = add(x,y);
System.out.println(res1);
int res2 = add (x,y,5);
System.out.println (res2);
int res3 = add(a);
System.out.println(res3);
```