

JAVA L47=48
DIGITAL ASSIGNMENT 1

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BASICS OF JAVA

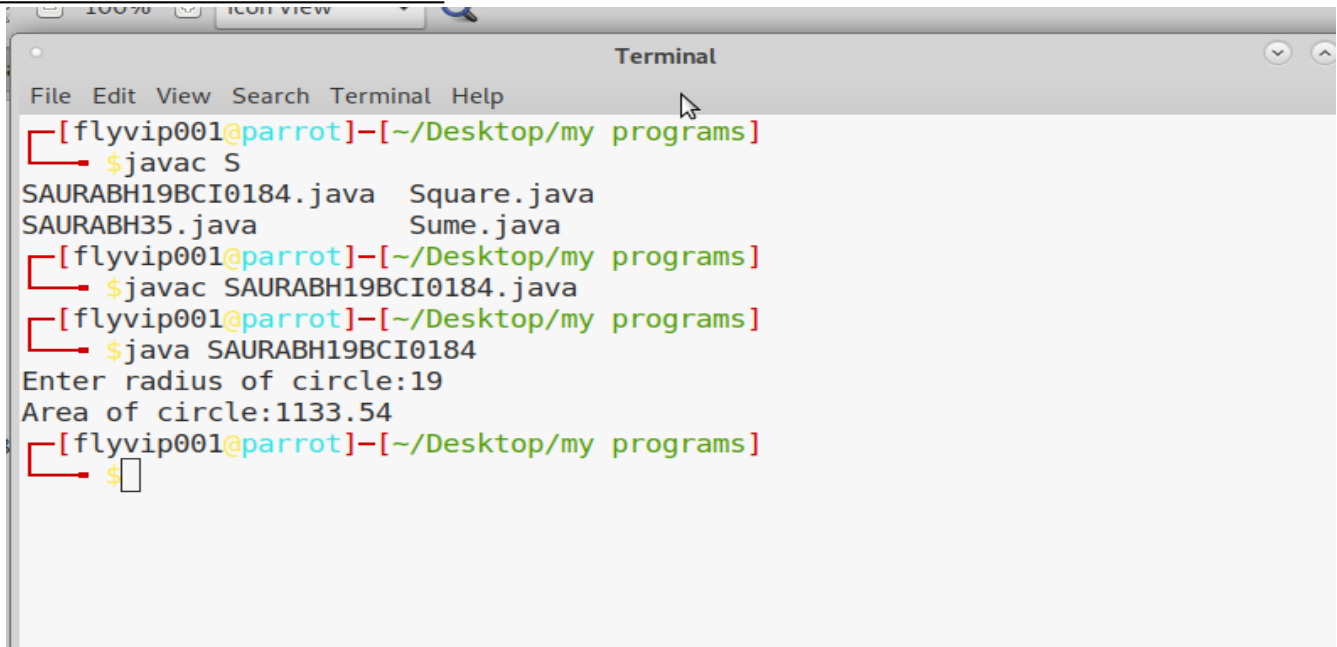
UNIQUE MARK- LINUX SYSTEM - flyvip001@parrot in terminal

1. Read the radius and print the area of a circle

Code:

```
import java.util.Scanner;
public class SAURABH35
{
    public static void main(String[] args)
    {
        int a;
        Scanner r = new Scanner(System.in);
        System.out.print("Enter the number to check:");
        a = r.nextInt();
        if(a % 5 == 0 & a % 3 ==0)
        {
            System.out.println(a +" is divisible by 3 and 5");
        }
        else
        {
            System.out.println(a +" is not divisible by 3 and 5");
        }
    }
}
```

OUTPUT/SCREENSHOT-



A screenshot of a terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
[flyvip001@parrot]-[~/Desktop/my programs]
$ javac S
SAURABH19BCI0184.java Square.java
SAURABH35.java Sume.java
[flyvip001@parrot]-[~/Desktop/my programs]
$ javac SAURABH19BCI0184.java
[flyvip001@parrot]-[~/Desktop/my programs]
$ java SAURABH19BCI0184
Enter radius of circle:19
Area of circle:1133.54
[flyvip001@parrot]-[~/Desktop/my programs]
$
```

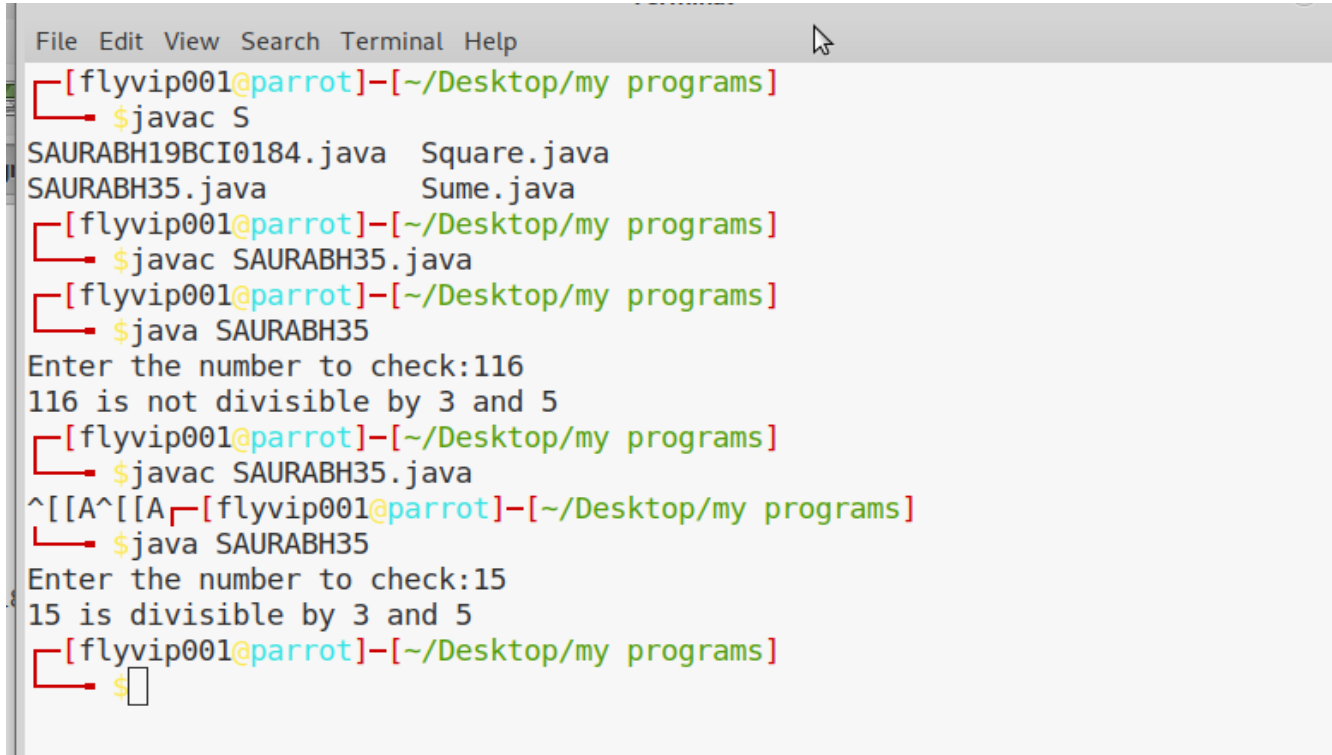
2. Read the number and check whether it is divisible by 3 and 5.

Code:

```
import java.util.Scanner;
public class SAURABH35
{
    public static void main(String[] args)
    {
        int a;
        Scanner r = new Scanner(System.in);
        System.out.print("Enter the number to check:");
        a = r.nextInt();
        if(a % 5 == 0 & a % 3 == 0)
        {
            System.out.println(a + " is divisible by 3 and 5");
        }
        else
        {
            System.out.println(a + " is not divisible by 3 and 5");
        }
    }
}
```

```
}  
}  
}
```

OUTPUT/SCREENSHOT-



```
File Edit View Search Terminal Help  
[flyvip001@parrot]~/Desktop/my programs  
$ javac S  
SAURABH19BCI0184.java Square.java  
SAURABH35.java Sume.java  
[flyvip001@parrot]~/Desktop/my programs  
$ javac SAURABH35.java  
[flyvip001@parrot]~/Desktop/my programs  
$ java SAURABH35  
Enter the number to check:116  
116 is not divisible by 3 and 5  
[flyvip001@parrot]~/Desktop/my programs  
$ javac SAURABH35.java  
^[[A^[[A [flyvip001@parrot]~/Desktop/my programs  
$ java SAURABH35  
Enter the number to check:15  
15 is divisible by 3 and 5  
[flyvip001@parrot]~/Desktop/my programs  
$
```

3. Display Subject Name based on room number. If the user enters 604 then display Java Programming , If the user enters 605 then display Python programming for any other input display Invalid input to the user

Code:

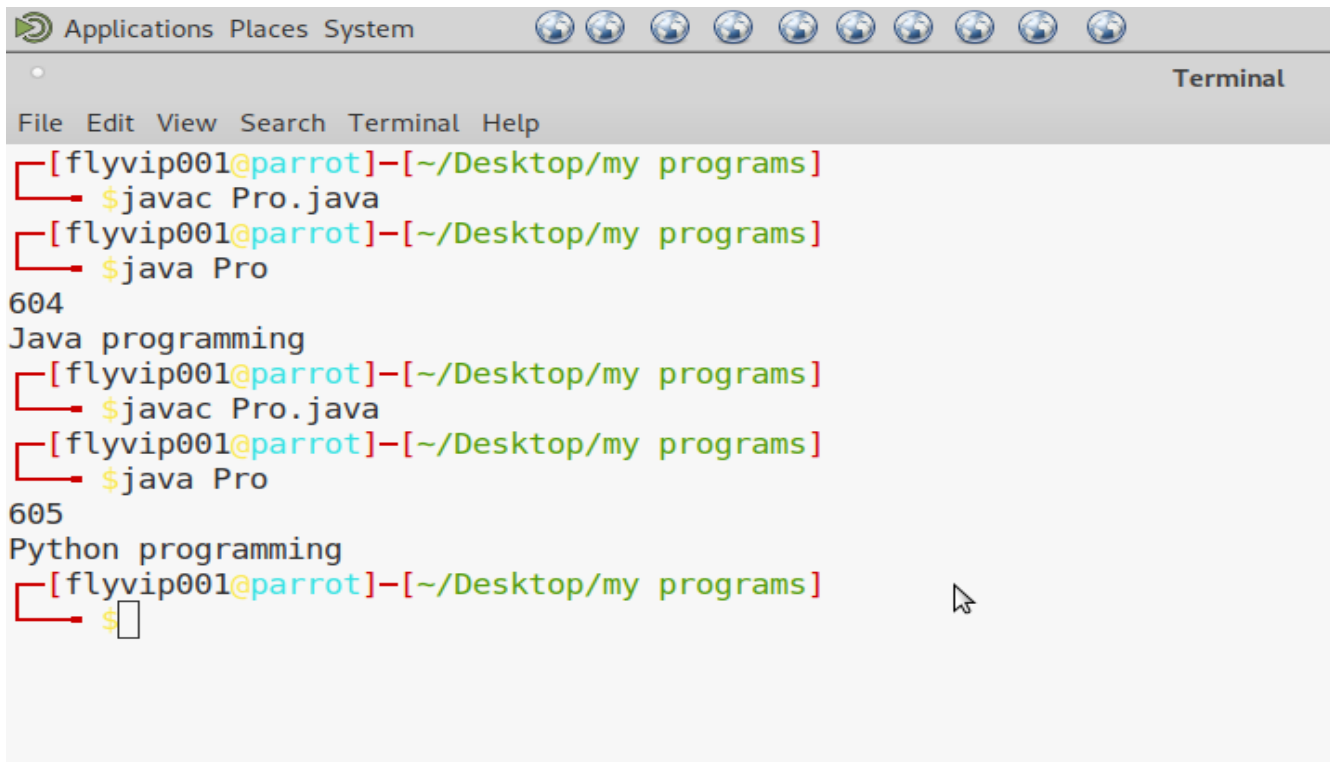
```
import java.util.Scanner;  
public class Pro{  
    public static void main(String args[]){  
        Scanner inp=new Scanner(System.in);  
        int rm=inp.nextInt();  
        if(rm==604){  
            System.out.println("Java programming");  
        }  
        else if(rm==605){
```

```

System.out.println("Python programming");}
else
System.out.println("Invalid input");}
}

```

OUTPUT/SCREENSHOT-



The screenshot shows a terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Help) and a title bar (Applications, Places, System). The terminal content is as follows:

```

[flyvip001@parrot]-[~/Desktop/my programs]
$ javac Pro.java
[flyvip001@parrot]-[~/Desktop/my programs]
$ java Pro
604
Java programming
[flyvip001@parrot]-[~/Desktop/my programs]
$ javac Pro.java
[flyvip001@parrot]-[~/Desktop/my programs]
$ java Pro
605
Python programming
[flyvip001@parrot]-[~/Desktop/my programs]
$

```

4. Print the sum of first n numbers. If n is 3 then print the sum of 1+2+3 to the user. Get n from the user

Code:

```

import java.util.Scanner;
public class Sume{
    public static void main(String args[]){
        int count=1,total=0;
        Scanner inp= new Scanner(System.in);
        System.out.println("Enter the number till sum to be calculated: ");
        int no= inp.nextInt();
        while(count<=no)

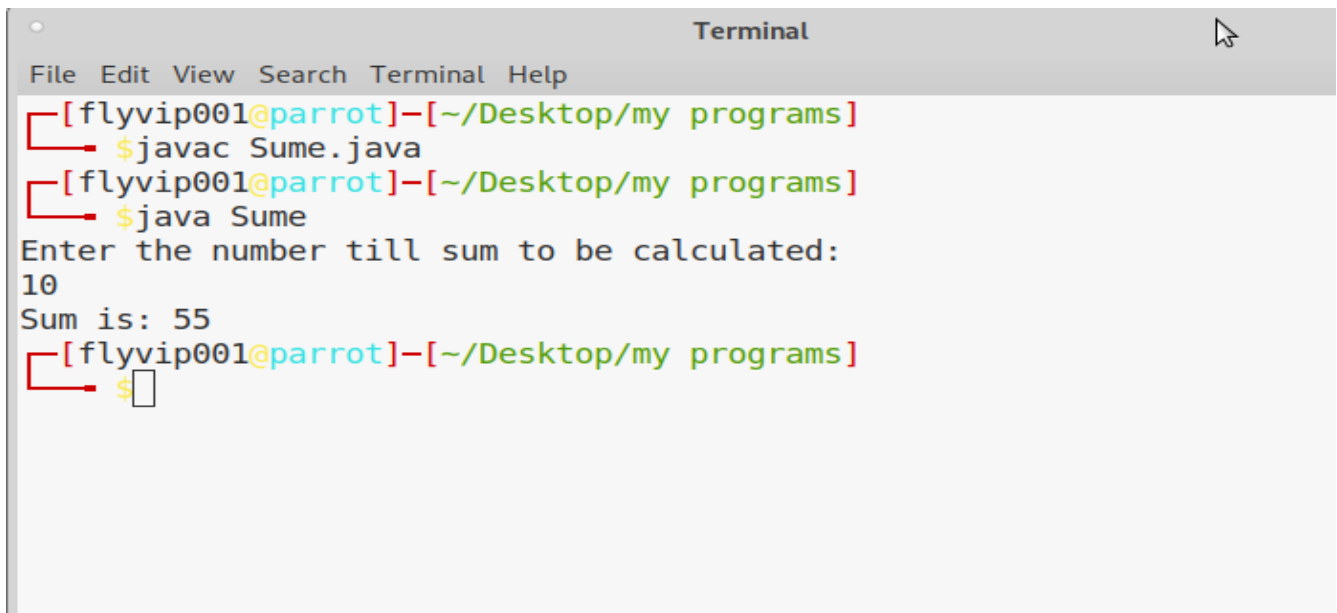
```

```

{
total=total+(count)
count++;}
System.out.println("Sum is: "+total);
}
}

```

OUTPUT/SCREENSHOT-



The screenshot shows a terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is [flyvip001@parrot]--[~/Desktop/my programs]. The user enters \$javac Sume.java, followed by \$java Sume. The program prompts "Enter the number till sum to be calculated:" and the user enters 10. The program outputs "Sum is: 55". The prompt returns to [flyvip001@parrot]--[~/Desktop/my programs] with a cursor on the \$ symbol.

```

[flyvip001@parrot]--[~/Desktop/my programs]
$javac Sume.java
[flyvip001@parrot]--[~/Desktop/my programs]
$java Sume
Enter the number till sum to be calculated:
10
Sum is: 55
[flyvip001@parrot]--[~/Desktop/my programs]
$

```

5. Print the sum of the series $1^2+2^2+3^2$ up to n terms

Code:

```

import java.util.Scanner;
public class Square{
    public static void main(String args[]){
        int count=1,total=0;
        Scanner inp= new Scanner(System.in);
        System.out.println("Enter the number till sum to be calculated: ");
        int no= inp.nextInt();
        while(count<=no)
        {

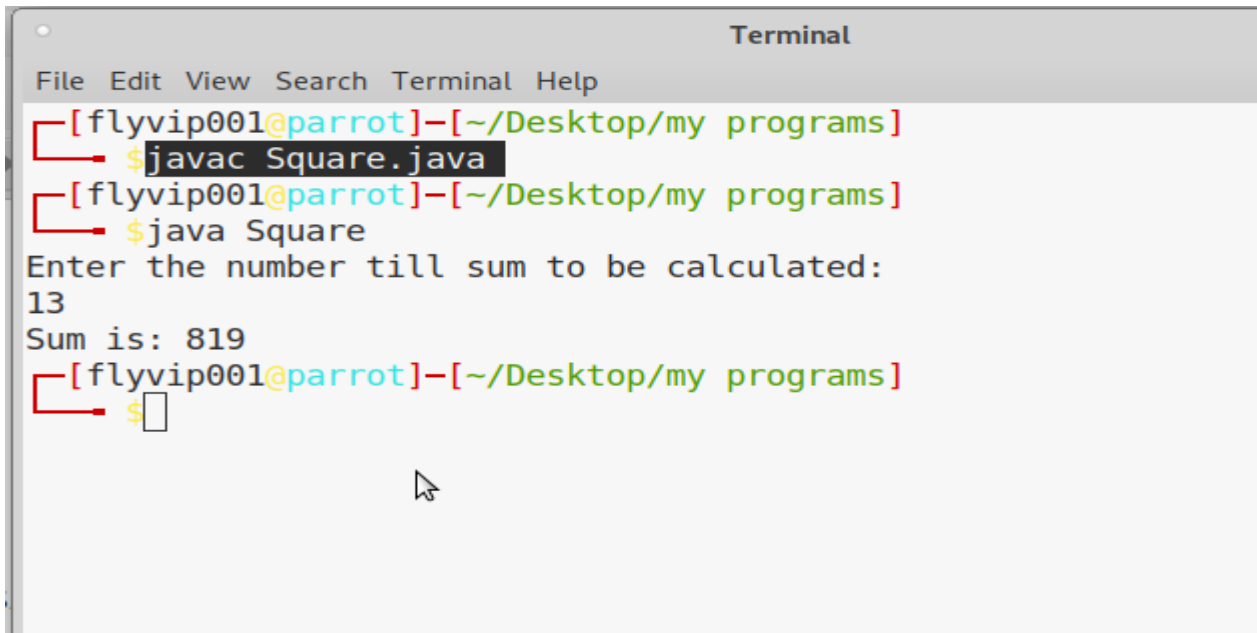
```

```

total=total+count*count;
count++;}
System.out.println("Sum is: "+total);
}
}

```

OUTPUT/SCREENSHOT-



The screenshot shows a terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The prompt is [flyvip001@parrot]--[~/Desktop/my programs]. The user enters the command `$javac Square.java`, which is highlighted in black. The prompt changes to [flyvip001@parrot]--[~/Desktop/my programs] and the user enters `$java Square`. The program outputs "Enter the number till sum to be calculated:" followed by the user input "13". The program then outputs "Sum is: 819". The prompt returns to [flyvip001@parrot]--[~/Desktop/my programs] and the user enters a dollar sign `$` followed by a cursor.

```

Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]--[~/Desktop/my programs]
$javac Square.java
[flyvip001@parrot]--[~/Desktop/my programs]
$java Square
Enter the number till sum to be calculated:
13
Sum is: 819
[flyvip001@parrot]--[~/Desktop/my programs]
$

```

6. Print the multiplication table by getting the n from the user.

Code:

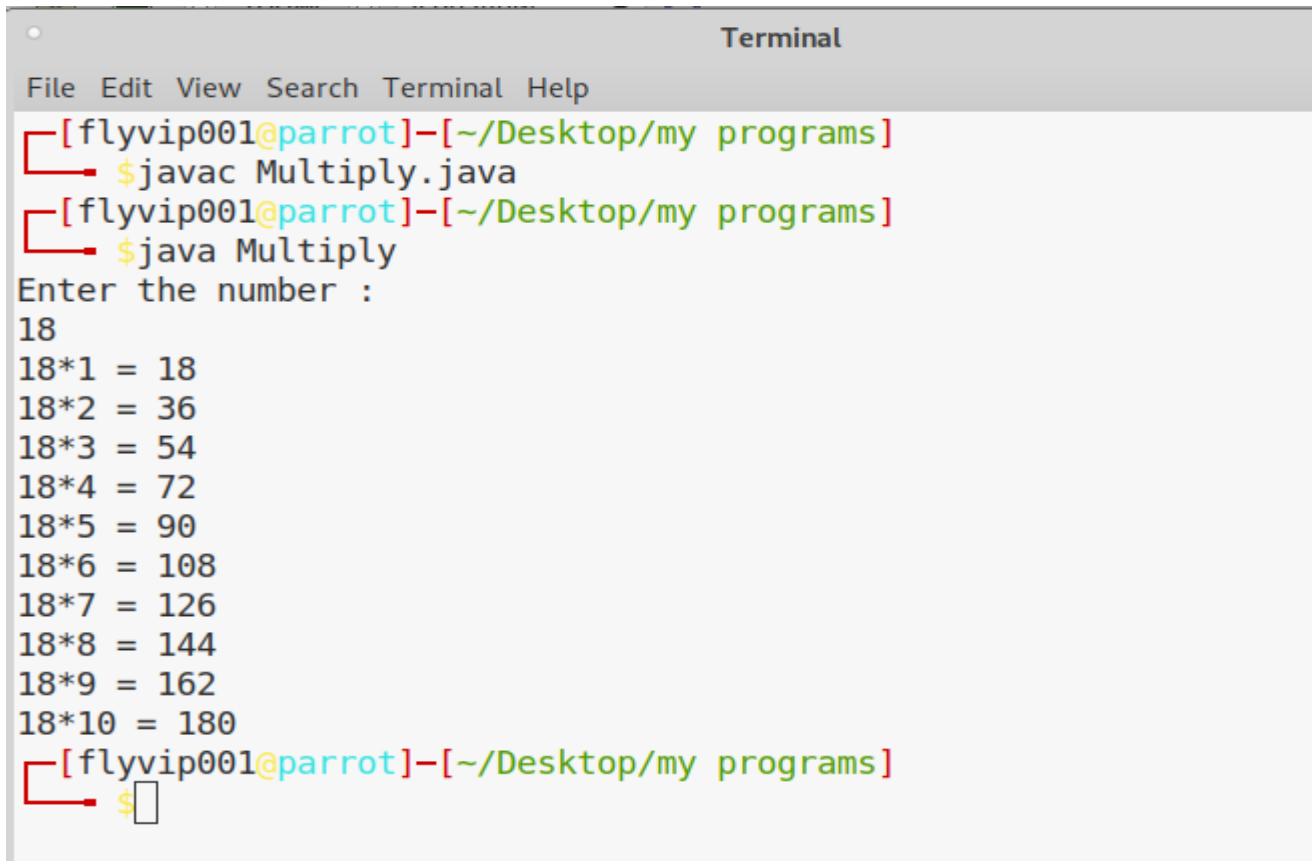
```

import java.util.Scanner;
public class Multiply{
    public static void main(String args[]){
        Scanner inp= new Scanner(System.in);
        System.out.println("Enter the number : ");
        int no= inp.nextInt();
        for(int i=1;i<=10;i++)
        {
            System.out.println(no+"*"+i+" = "+no*i);
        }
    }
}

```

}

OUTPUT/SCREENSHOT-



```
[flyvip001@parrot] - [~/Desktop/my programs]
$javac Multiply.java
[flyvip001@parrot] - [~/Desktop/my programs]
$java Multiply
Enter the number :
18
18*1 = 18
18*2 = 36
18*3 = 54
18*4 = 72
18*5 = 90
18*6 = 108
18*7 = 126
18*8 = 144
18*9 = 162
18*10 = 180
[flyvip001@parrot] - [~/Desktop/my programs]
$
```

7. Provide the option of adding two numbers to the user until the user wants to exit.

Code:

```
import java.util.*;
import java.lang.*;
public class Rules{
    public static void main(String[] args) {
        Scanner inp= new Scanner(System.in);
        while(true){
            System.out.println("Enter 1 for adding and 2 for exit:");
            int num= inp.nextInt();
```

```

switch(num){
    case 1:
        System.out.println("Enter two numbers:");
        int n1=inp.nextInt();
        int n2=inp.nextInt();
        int sum=n1+n2;
        System.out.println("SUm is:"+sum);
        break;
    case 2:
        System.exit(0);}}
}}

```

OUTPUT/SCREENSHOT-

```

Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]-[~/Desktop/my programs]
$javac Rules.java
[flyvip001@parrot]-[~/Desktop/my programs]
$java Rules
Enter 1 for adding and 2 for exit:
1
Enter two numbers:
45
24
SUm is:69
Enter 1 for adding and 2 for exit:
2
[flyvip001@parrot]-[~/Desktop/my programs]
$

```

8. Print this pattern for n lines

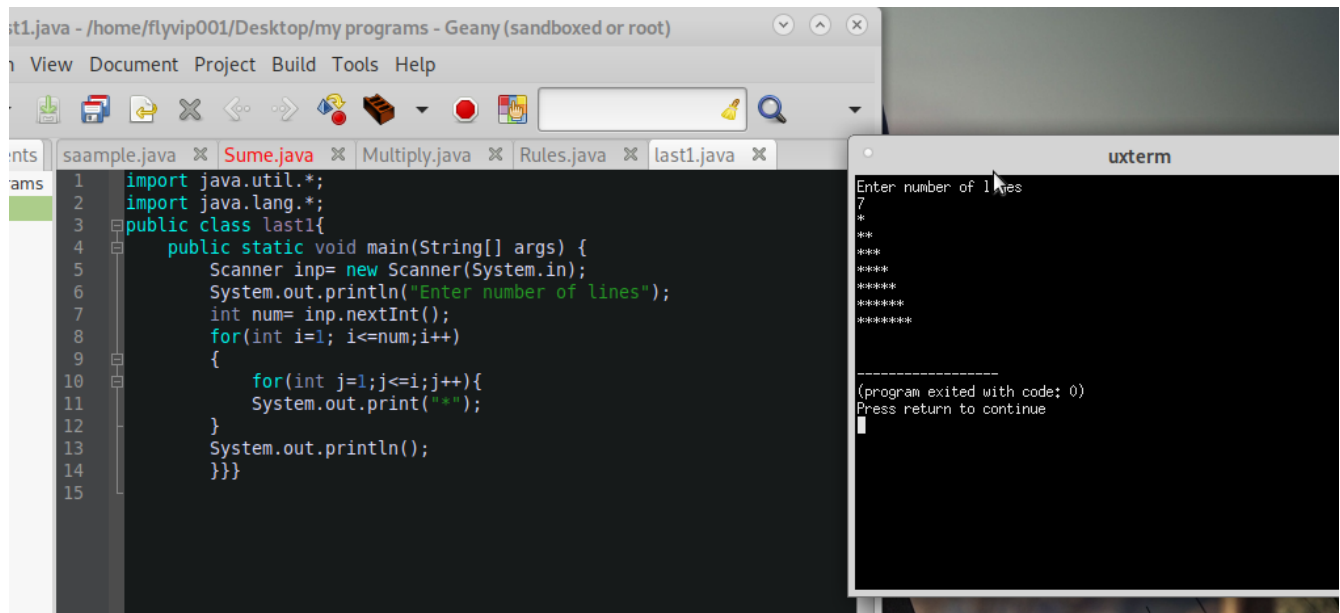
(a)

```

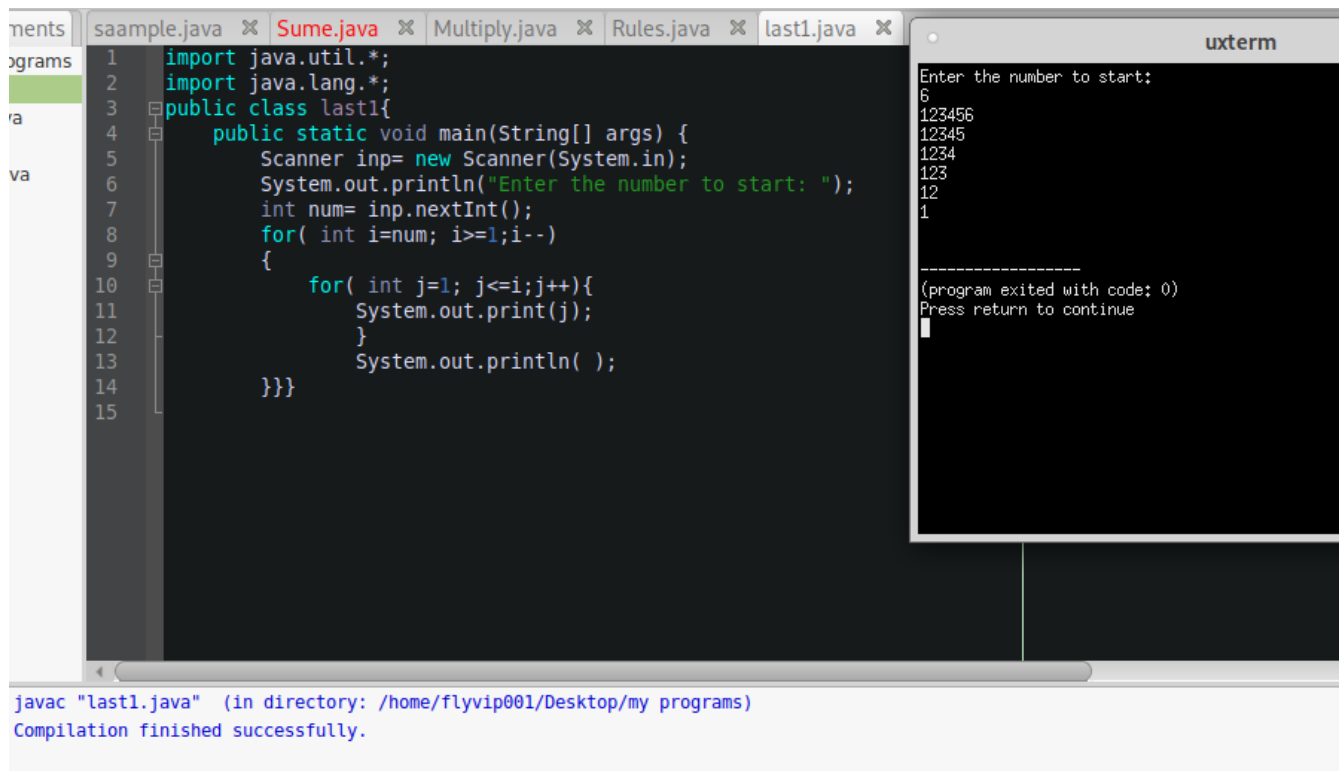
*
**
***

```


Code and screenshot of terminal:



(b)
1234
123
12
1



(c)

1

12

123

1234

12345

123456

123456

12345

1234

123

12

1

CODE:

```
import java.util.*;
import java.lang.*;
public class last1{
    public static void main(String[] args) {
        Scanner inp= new Scanner(System.in);
        System.out.println("Enter the number to start: ");
        int num= inp.nextInt();
        for( int i=1 ;i<=num;i++)
        {
            for( int j=1; j<=i;j++){
                System.out.print(j);
            }
            System.out.println( );
        }
        for( int i=num; i>=1;i--)
        {
            for( int j=1; j<=i;j++){
                System.out.print(j);
            }
            System.out.println( );
        }
    }
}
```

OUTPUT/SCREENSHOT-

```
Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]--[~/Desktop/my programs]
$javac last1.java
j[flyvip001@parrot]--[~/Desktop/my programs]
$java last1
Enter the number to start:
6
1
12
123
1234
12345
123456
123456
12345
1234
123
12
1
[flyvip001@parrot]--[~/Desktop/my programs]
$
```

ARRAYS

**9. Write a java Program to display the sum of rows in a matrix
Code:**

```
public class SumofRowsSAURABH
{
    public static void main(String[] args) {
        int row, col, sumofRow;

        int a[][] = {
            {12, 24, 13},
            {34, 3, 16},
```

```
        {52, 29, 49}  
    };
```

```
    row = a.length;  
    col= a[0].length;
```

```
    for(int i = 0; i < row; i++)  
    {  
        sumofRow = 0;  
        for(int j = 0; j < col; j++){  
            sumofRow +=a[i][j];  
        }  
        System.out.println("Sum of " + (i+1) +" row is following: " +  
sumofRow);  
    }  
  
}
```

OUTPUT/SCREENSHOT-

```
$ ls
AddMatrixbySAURABH.class      Saurabh19bci0184p8.class
AddMatrixbySAURABH.java      Saurabh19bci0184p8.java
duplicateelem.class          sorttingbySAURABHSINGH19BCI0184.class
duplicateelem.java          sorttingbySAURABHSINGH19BCI0184.java
GFG.class                   sortting.class
GFG.java                   sortting.java
jdk-14.0.2_linux-x64_bin.deb SumofRowColumn.class
lab21.java                 SumofRowColumn.java
oddeven.class              SumofRowsSAURABH.class
oddeven.java              SumofRowsSAURABH.java
Saurabh19bci0184_8.class   TransposeMatrix.class
Saurabh19bci0184_8.java   TransposeMatrix.java
Saurabh19bci0184P7.class  TransposeofMatrixbySAURABH19BCI0184.class
Saurabh19bci0184P7.java  TransposeofMatrixbySAURABH19BCI0184.java

[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$ javac SumofRowsSAURABH.java
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$ java SumofRowsSAURABH
Sum of 1 row is following: 49
Sum of 2 row is following: 53
Sum of 3 row is following: 130
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$
```

10. Write a java Program to display the addition of two matrix Code:

```
import java.util.Scanner;
class AddMatrixbySAURABH
{
public static void main(String args[])
{
int r, c,i,j;
Scanner temp = new Scanner(System.in);

System.out.println("Enter number of rows");
r = temp.nextInt();

System.out.println("Enter number columns");
c = temp.nextInt();
```

```
int matrix1[][] = new int[r][c];
int matrix2[][] = new int[r][c];
int addofmatrix[][] = new int[r][c];

System.out.println("Enter the elements of matrix1");

for ( i= 0 ; i < r ; i++ )
{

for ( j= 0 ; j < c ;j++ )
matrix1[i][j] = temp.nextInt();

System.out.println();
}
System.out.println("Enter the elements of matrix2");

for ( i= 0 ; i < r ; i++ )
{

for ( j= 0 ; j < c ;j++ )
matrix2[i][j] = temp.nextInt();

System.out.println();
}

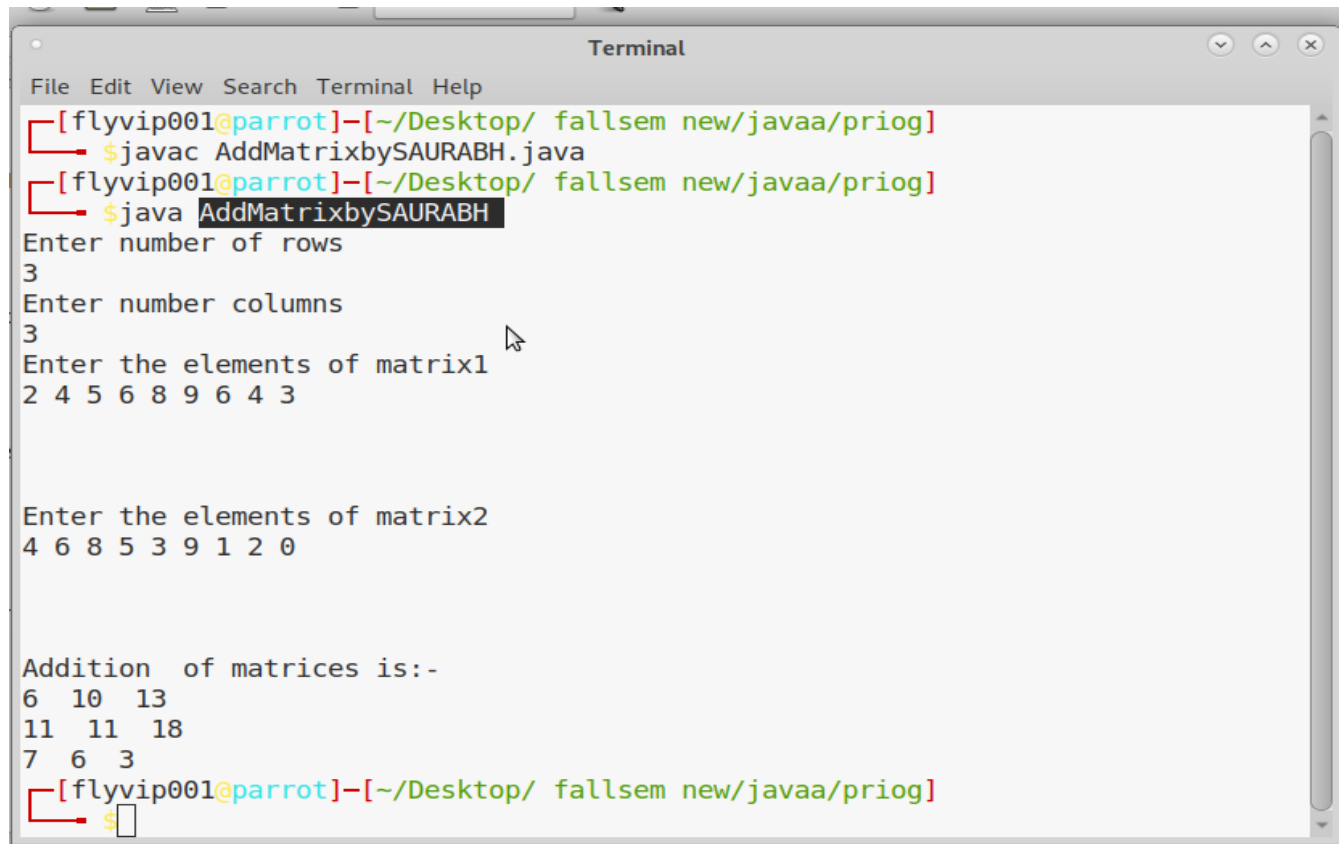
for ( i= 0 ; i < r ; i++ )
for ( j= 0 ; j < c ;j++ )
addofmatrix[i][j] = matrix1[i][j] + matrix2[i][j] ;

System.out.println("Addition  of matrices is:-");

for ( i= 0 ; i < r ; i++ )
{
for ( j= 0 ; j < c ;j++ )
System.out.print(addofmatrix[i][j]+" ");
```

```
System.out.println();
}
}
}
```

OUTPUT/SCREENSHOT-



The screenshot shows a terminal window titled "Terminal" with a menu bar (File, Edit, View, Search, Terminal, Help). The user is in a directory ~/Desktop/fallsem new/javaa/priog. They compile and run a Java program named AddMatrixbySAURABH.java. The program prompts for the number of rows (3) and columns (3), then for the elements of matrix1 (2 4 5 6 8 9 6 4 3) and matrix2 (4 6 8 5 3 9 1 2 0). It then displays the addition of the two matrices.

```
Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]~/Desktop/ fallsem new/javaa/priog
$ javac AddMatrixbySAURABH.java
[flyvip001@parrot]~/Desktop/ fallsem new/javaa/priog
$ java AddMatrixbySAURABH
Enter number of rows
3
Enter number columns
3
Enter the elements of matrix1
2 4 5 6 8 9 6 4 3

Enter the elements of matrix2
4 6 8 5 3 9 1 2 0

Addition of matrices is:-
6 10 13
11 11 18
7 6 3
[flyvip001@parrot]~/Desktop/ fallsem new/javaa/priog
$
```

11. Write a java Program to display the transpose of a matrix

Code:

```
import java.util.*;

public class TransposeofMatrixbySAURABH19BCI0184
{
    public static void main(String args[])
    {
        int r,c;
```

```

Scanner temp=new Scanner(System.in);
System.out.print("Enter your number of rows: ");
r=temp.nextInt();
System.out.print("Enter your number of columns: ");
c=temp.nextInt();

int a[][]=new int[r][c];
System.out.println("Enter elements of matrix A:");
for(int i=0; i<r; i++)
{
    for(int j=0; j<c; j++)
    {
        System.out.print("Element is : ");
        a[i][j]=temp.nextInt();
    }
}
System.out.println("Matrix a is given by:");
for(int i=0; i<r; i++){
    for(int j=0; j<c; j++){
        System.out.print(a[i][j] + " ");
    }
    System.out.print("\n");
}
System.out.println("Transpose Matrix is given by : ");
for(int i=0; i<c; i++){
    for(int j=0; j<r; j++){
        System.out.print(a[j][i] + " ");
    }
    System.out.print("\n");
}
}
}

```

OUTPUT/SCREENSHOT-


```
Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa/priog]
$javac TransposeofMatrixbySAURABH19BCI0184.java
^[[A^[[A[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa/priog]
$java TransposeofMatrixbySAURABH19BCI0184
Enter your number of rows: 3
Enter your number of columns: 3
Enter elements of matrix A:
Element is : 2
Element is : 3
Element is : 4
Element is : 5
Element is : 6
Element is : 7
Element is : 7
Element is : 8
Element is : 9
Matrix a is given by:
2 3 4
5 6 7
7 8 9
Transpose Matrix is given by :
2 5 7
3 6 8
4 7 9
[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa/priog]
$
```

12. Write a Java program to sort an array of positive integers of an given array, in the sorted array the value of the first element should be maximum, second value should be minimum value, third should be second maximum, fourth second be second minimum and so on.

Code:

```
import java.util.Arrays;

public class sorttingbySAURABHSINGH19BCI0184
{
    public static void main(String[] args)
    {
```

```
int numbers[] = new int[]{52, 28, 68, 27, 72, 98, 109, 88, 60, 10};  
int resultarra[];
```

```
System.out.println("the Array IS: ");  
System.out.println(Arrays.toString(numbers));
```

```
resultarra = rearrange(numbers,numbers.length);
```

```
System.out.println("New Array is given by: ");  
System.out.println(Arrays.toString(resultarra));
```

```
}
```

```
static int[] rearrange(int[] new_arra, int n)
```

```
{
```

```
    int temp[] = new int[n];
```

```
    int small_num = 0, large_num = n-1;
```

```
    boolean flag = true;
```

```
    for (int i=0; i < n; i++)
```

```
    {
```

```
        if (flag)
```

```
            temp[i] = new_arra[large_num--];
```

```
        else
```

```
            temp[i] = new_arra[small_num++];
```

```
        flag = !flag;
```

```
    }
```

```
    return temp;
```

```
}
```

```
}
```

OUTPUT/SCREENSHOT-

```
Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$ javac sorttingbySAURABHSINGH19BCI0184.java
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$ java sorttingbySAURABHSINGH19BCI0184
the Array IS:
[52, 28, 68, 27, 72, 98, 109, 88, 60, 10]
New Array is given by:
[10, 52, 60, 28, 88, 68, 109, 27, 98, 72]
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$
```

13. Write a Java program to separate even and odd numbers of an given array of integers. Put all even numbers first, and then odd numbers.

Code:

```
import java.util.Arrays;
public class oddeven
{
    public static void main (String[] args)
    {
        int nums[] = {20, 12, 23, 17, 7, 8, 10, 2, 1, 0};
        int result[];
        System.out.println("Original Array ");
        System.out.println(Arrays.toString(nums));

        result = sepoddeven(nums);

        System.out.print("Array after separation is given by: ");
        System.out.println(Arrays.toString(result));
    }

    static int [] sepoddeven(int arr[])
    {
```

```

int ls = 0, rs = arr.length - 1;
while (ls < rs)
{
    while (arr[ls]%2 == 0 && ls < rs)
        ls++;

    while (arr[rs]%2 == 1 && ls < rs)
        right_side--;

    if (ls < rs)
    {
        int temp = arr[ls];
        arr[ls] = arr[rs];
        arr[right_side] = temp;
        ls++;
        rs--;
    }
}
return arr;
}
}

```

OUTPUT/SCREENSHOT-

```

Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$javac oddeven.java
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$java oddeven
Original Array
[20, 12, 23, 17, 7, 8, 10, 2, 1, 0]
Array after separation [20, 12, 0, 2, 10, 8, 7, 17, 1, 23]
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$

```

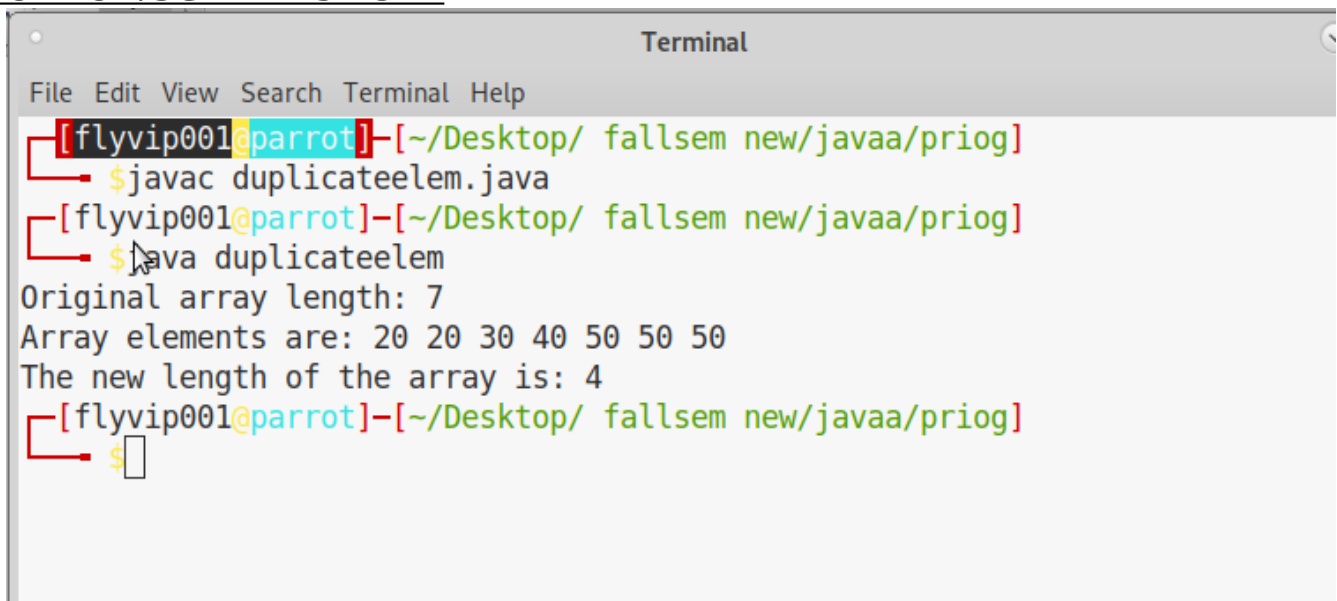
14. Write a Java program to remove the duplicate elements of a given array and return the new length of the array.

Code:

```
public class duplicateelem {
    public static void main(String[] args) {
        int nums[] = {20, 20, 30, 40, 50, 50, 50};
        System.out.println("Original array length: "+nums.length);
        System.out.print("Array elements are: ");
        for (int i = 0; i < nums.length; i++)
        {
            System.out.print(nums[i]+" ");
        }
        System.out.println("\nThe new length of the array is:
"+array_sort(nums)      }
        public static int array_sort(int[] nums) {
            int index = 1;
            for (int i = 1; i < nums.length; i++) {
                if (nums[i] != nums[index-1])
                    nums[index++] = nums[i];
            }
            return index; }}

```

OUTPUT/SCREENSHOT-



```
Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$ javac duplicateelem.java
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$ java duplicateelem
Original array length: 7
Array elements are: 20 20 30 40 50 50 50
The new length of the array is: 4
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$
```

15. Write a Java program to find the sum of the two elements of a given array which is equal to a given integer.

Code:

```
import java.util.Scanner;
public class P7Saurabh19bci0184 {
    public static void main( String args[]){
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter number of elements: ");
        int a=sc.nextInt();
        int b[];
        b=new int[a];
        System.out.println("ENter the array: ");
        for(int i=0;i<a;i++){
            b[i]=sc.nextInt();}
        System.out.println("Enter the sum: ");
        int c=sc.nextInt();
        for(int i=0;i<a;i++){
            for(int j=0;j<a;j++){
                if(c==b[i]+b[j]){
                    System.out.print(" INDEX " + i );
                    System.out.print(" INDEX " + j );
                    System.out.println();
                }
            }
        }
    }
}
```

OUTPUT/SCREENSHOT-

```
Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$javac P7Saurabh19bci0184.java
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$java P7Saurabh19bci0184
Enter number of elements:
5
Enter the array:
5
6
7
3
8
Enter the sum:
13
INDEX 0 INDEX 4
INDEX 1 INDEX 2
INDEX 2 INDEX 1
INDEX 4 INDEX 0
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$
```

16. Write a program to demonstrate the knowledge of students in multidimensional arrays and looping constructs. Eg., If there are 4 batches in BTech - “CSE1007” course, read the count of the slow learners (who have scored <25) in each batch. Tutors should be assigned in the ratio of 1:4 (For every 4 slow learners, there should be one tutor). Determine the number of tutors for each batch. Create a 2- D jagged array with 4 rows to store the count of slow learners in the 4 batches. The number of columns in each row should be equal to the number of groups formed for that particular batch (Eg., If there are 23 slow learners in a batch, then there should be 6 tutors and in the jagged array, the corresponding row should store 4, 4, 4, 4, 4,3). Use for-each loop to traverse the array and print the details. Also print the number of batches in which all tutors have exactly 4 students.

Code:

```
import java.util.Scanner;
```

```

public class Saurabh19bci0184p8 {

    public static void main(String[] args) {
        double k;
        int a, b;

        int arr[][] = new int[4][];
        Scanner rit = new Scanner(System.in);
        for(a = 0; a < arr.length; a++){
            System.out.print("Enter number of weak students for the batch " + (a+1)
+ ": ");
            k = rit.nextDouble();
            int n= (int)k/4;
            System.out.print("Number of tutor for the batch " +(a+1) +"is :");
            if ((k/4)>(n)){
                System.out.println(n+1);}
            else {
                System.out.println(n);}
            arr[a] = new int[(int)Math.ceil(k/4)];
            for(b = 0; b < arr[a].length; b++)
            {
                if(k >= 4)
                    arr[a][b] = 4;
                else
                    arr[a][b] = (int)k;
                k = k - 4;
            }

        }
        rit.close();

        int jaggres = 0;
        System.out.println(" 2D Jagged Array is shown by : ");
        System.out.println();
        for (a = 0; a < arr.length; a++) {

```



```

        for (b = 0; b < arr[a].length; b++) {
            System.out.print(arr[a][b] + " ");
            if(arr[a][b] == 4)
                jaggres++;
        }
        System.out.println();
    }
}

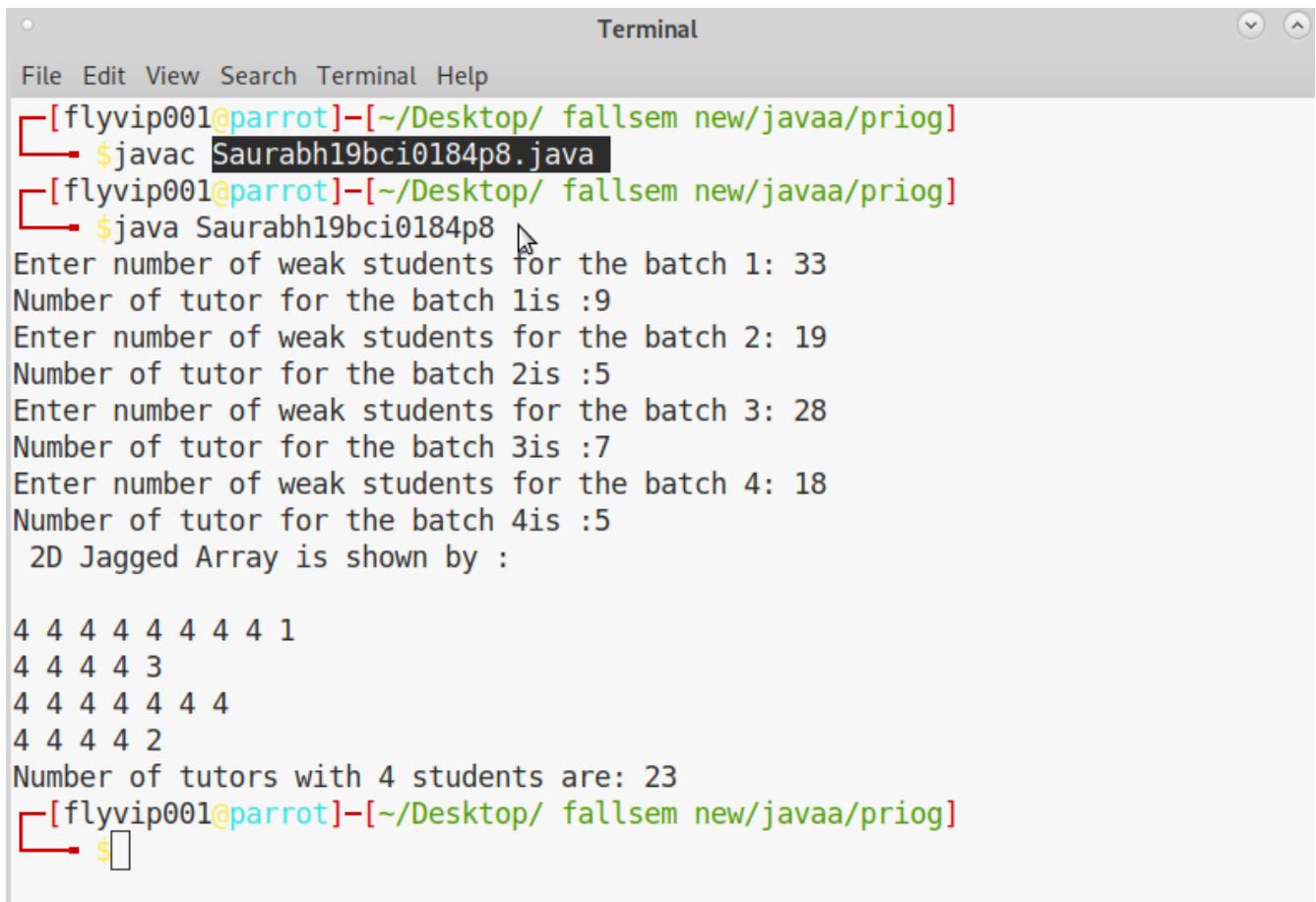
```

```

        System.out.println("Number of tutors with 4 students are: " + jaggres );
    }
}

```

OUTPUT/SCREENSHOT-



```

Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$javac Saurabh19bci0184p8.java
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$java Saurabh19bci0184p8
Enter number of weak students for the batch 1: 33
Number of tutor for the batch 1is :9
Enter number of weak students for the batch 2: 19
Number of tutor for the batch 2is :5
Enter number of weak students for the batch 3: 28
Number of tutor for the batch 3is :7
Enter number of weak students for the batch 4: 18
Number of tutor for the batch 4is :5
2D Jagged Array is shown by :

4 4 4 4 4 4 4 4 1
4 4 4 4 3
4 4 4 4 4 4 4
4 4 4 4 2
Number of tutors with 4 students are: 23
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa/priog]
$

```

STRINGS

17. Write a java Program to check whether given string is palindrome or not.
Code:

```
import java.util.*;
public class quesSAURABH19bci0184 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String s;
        int len;
        String r = "";

        s = sc.nextLine();
        len = s.length();
        for(int i=len-1; i>=0; i--){
            r = r + s.charAt(i);
        }
        if(s.equals(r)){
            System.out.println("The string is a palindrome.");
        }
        else {
            System.out.println("The string is not a palindrome.");
        }
    }
}
```

OUTPUT/SCREENSHOT-

```
Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa]
$javac quesSAURABH19bci0184.java
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa]
$java quesSAURABH19bci0184
ABCDcba
The string is a palindrome.
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa]
$javac quesSAURABH19bci0184.java
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa]
$java quesSAURABH19bci0184
PALINDROME
The string is not a palindrome.
[flyvip001@parrot]--[~/Desktop/ fallsem new/javaa]
$
```

18. Write a Java program to sort a string array in ascending order.

Input the string: hello world welcome to vit

Expected Output: cdeeehillllmoooorttww

Code:

```
import java.util.Scanner;
public class sortstring1Saurabh19bci0184 {
    public static void main(String args[]){
        Scanner tip = new Scanner(System.in);
        String str1;
        System.out.println("Enter the string to be sorted: ");
        str1=tip.nextLine();
        str1=str1.replaceAll("\\s", "");
        int length= str1.length();
        char s[]=str1.toCharArray();
        for(int i=0;i<length;i++)
            for(int j=i+1;j<length;j++){
                if (s[i]>s[j])
```

```

        {
            char mp=s[i];
            s[i]=s[j];
            s[j]=mp;
        }
    }
    String str2= new String(s);
    System.out.println("The answer is:" );
    System.out.println(str2);
}
}

```

OUTPUT/SCREENSHOT-

```

Terminal
File Edit View Search Terminal Help
[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
$ javac sortstring1Saurabh19bci0184.java
^[[A^[[A[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
$ java sortstring1Saurabh19bci0184
Enter the string to be sorted:
hello world welcome to vit
The answer is:
cdeeehillllmoooorttvww
[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
$ javac sortstring1Saurabh19bci0184.java
[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
$ java sortstring1Saurabh19bci0184
Enter the string to be sorted:
HELLO WORLD I AM SAURABH SINGH
The answer is:
AAABDEGHHHIILLMN0ORRSSUW
[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
$

```

19. Write a java program to sort the names in descending order.

Code:

```
import java.util.Scanner;
public class NamesOrderSaurabh19BCI0184
{
    public static void main(String[] args)
    {
        String t;
        Scanner scan = new Scanner(System.in);
        System.out.print("Enter number of names you want to enter:");
        int m = scan.nextInt();
        String namesort[] = new String[m];
        Scanner string = new Scanner(System.in);
        System.out.println("Enter all the names:");
        for(int i = 0; i < m; i++)
        {
            namesort[i] = string.nextLine();
        }
        for (int i = 0; i < m; i++)
        {
            for (int j = i + 1; j < m; j++)
            {
                if (namesort[i].compareTo(namesort[j])>0)
                {
                    t = namesort[i];
                    namesort[i] = namesort[j];
                    namesort[j] = t;
                }
            }
        }
        System.out.println("The Names in Sorted Order is: ");

        for (int i = 0; i < m - 1; i++)
```

```

    {
        System.out.println(namesort[i]);
    }
    System.out.print(namesort[m - 1]);
}

}

```

OUTPUT/SCREENSHOT-

```

Terminal
File Edit View Search Terminal Help
^[[A [flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
└─ $javac NamesOrderSaurabh19BCI0184.java
└─ [flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
└─ $java NamesOrderSaurabh19BCI0184
Enter number of names you want to enter:5
Enter all the names:
saurabh
amal
ritish
ritika
saurav
The Names in Sorted Order is:
amal
ritika
ritish
saurabh
saurav [flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
└─ $

```

20. Write a java Program to check whether the given two strings are anagram or not.

Code:

```
import java.util.Scanner;

public class JSaurabh19bci0184lastanagram
{
    public static void main(String[] input)
    {
        String str1, str2;
        int lena, lenb, lenc;
        int temp=0, antitemp=0;
        Scanner strn = new Scanner(System.in);

        System.out.print("Enter the First String : ");
        str1 = strn.nextLine();
        System.out.print("Enter the Second String : ");
        str2 = strn.nextLine();

        lenb = str1.length();
        lenc = str2.length();

        if(lenb == lenc)
        {
            lena = lenb;
            for(int i=0; i<lena; i++)
            {
                temp= 0;
                for(int j=0; j<lena; j++)
                {
                    if(str1.charAt(i) == str2.charAt(j))
                    {
                        temp = 1;
                        break;
                    }
                }
            }
            if(temp == 0)
            {
```

```
        antitemp = 1;
        break;
    }
}
if(antitemp== 1)
{
    System.out.print("The entered Strings are not Anagram to Each
Other..!!");
}
else
{
    System.out.print("The Entered Strings are Anagram Thankyou");
}
}
else
{
    System.out.print(" Strings don't have the same number of Characters ");
}
}
}
```

OUTPUT/SCREENSHOT-


```
Terminal
File Edit View Search Terminal Help
└─[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
└─ $javac JSaurabh19bci0184lastanagram.java
└─[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
└─ $java JSaurabh19bci0184lastanagram
Enter the First String : fiber
Enter the Second String : brief
The Entered Strings are Anagram Thankyou└─[flyvip001@parrot]-[~/Desktop/ fallsem
new/javaa]
└─ $javac JSaurabh19bci0184lastanagram.java
└─[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
└─ $java JSaurabh19bci0184lastanagram
Enter the First String : fiber
Enter the Second String : briefing
Strings don't have the same number of Characters └─[flyvip001@parrot]-[~/Desкто
p/ fallsem new/javaa]
└─ $javac JSaurabh19bci0184lastanagram.java
^[[A└─[flyvip001@parrot]-[~/Desktop/ fallsem new/javaa]
└─ $java JSaurabh19bci0184lastanagram
Enter the First String : liden
Enter the Second String : silenc
The entered Strings are not Anagram to Each Other..!!└─[flyvip001@parrot]-[~/Des
ktop/ fallsem new/javaa]
└─ $
```

THANKYOU

SAURABH SINGH
19BCI0184

@flyvip001