classmate
Date
Page

WEEK - 2

SWAROOP. S. JADHAV
1BM19CS167

2.
```
import java.util.*;
public class Main series
{
public static void main (String[] args)
{
    Scanner sc = new Scanner (System.in);
    int i,j,c=0,n;
    System.out.println ("Enter the number of rows");
    n = sc.nextInt ();
    for (i=0; i<=n; i++)
    {
        for (j=1; j<=i; j++)
        {
            c++;
            System.out.print (c+" ");
        }
        System.out.println();
    }
}
}
```

4.
```
import java.util.*;
class Grade
{
public static void main (String []args)
  {
    Scanner sc = new Scanner (System.in);
    int CIE, SEE, Total
    System.out.println ("Enter the CIE Marks for the Student
      out of 50");
     CIE = sc.nextInt();
    System.out.println ("Enter the SEE Marks for the Student
      out of 100 ");
     SEE = sc.nextInt();
    float Total = CIE + ((float) SEE )/2;
     if (Total >=90 && Total <=100)
      {
        System.out.Println (" S grade");
      }
     else if ( Total >= 80 && Total <90)
      {
        System.out.Println (" A grade");
      }
     else if (Total >=70 && Total <80)
     {
       System.out.println (" B grade");
     }
     else if (Total >=60 && Total <70)
      {
        System.out.println (" C grade");
      }
```

```
else if (Total >= 40 && Total < 60)
  {
    System.out.println("D grade");
  }
  else
    {
      System.out.println("F grade");
    }
  }
}
```

⑤

```
import java.util.*;
class Prime
{
  public static void main(String[] args)
  {
    Scanner sc = new Scanner(System.in);
    int a, b, i=0, j=0
    System.out.println("Enter the starting and ending number");
    a = sc.nextInt();
    b = sc.nextInt();
    for (i=a ; i<=b ; i++)
    {
      for (j=1 ; j<=i ; j++)
      {
        if (i%j==0)
          c++;
      }
      if (c==2)
      System.out.println(i);
      c=0;
    }
  }
}
```

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6.
```
import java.util.*;
import java.math.*;
class Area
{
  public static void main (String[]args)
  {
    Scanner sc = new Scanner (System.in);
    int c;
double float p = 3.14, r, h, Area=pVol=0;
  System.out.println("Enter your choice");
  System.out.println(" 1.cylinder\n 2.cone\n 3.Sphere\n");
     c = sc.nextInt();
   while (c!=0)
   {
     switch(c)
     {
       case 1: System.out.println("Enter the radius and height of
               cylinder")
               r = sc.nextFloat();
               h = sc.nextFloat();
           Area = (2*p*r*h)+(2*p*r*r);
           Vol = p*r*r*h;
           break;
      case 2: System.out.println("Enter the radius and height of
               cone")
               r = sc.nextFloat();
               h = sc.nextFloat();
           Area = (p*r)(r+ Math.Sqrt((h*h)+(r*r));
           VOL = (p*r*r*h)/3;
           break;
```

```
case 3: System.out.println("Enter the radius of sphere");
        r = sc.nextFloat();
        Area = 4*p*r*r;
        Vol = (4/3)*(p*r*r*r);
        break;
}
System.out.println(" Area of the solid = " + Area);
System.out.println(" Volume of the Solid = " + Vol);
System.out.println(" For different solid enter option between
        1 to 3 \n To exit enter 0");
    ch c = sc.nextInt();
    }
  }
}
```

7.

```
#include<stdio.h>
#include<stdlib.h>

struct Student {
 char name[40];
 int elective;
};

int main(){
int i, j, choice, n, east, temp;
int count[3] = {0,0,0};
char electives[3][40]={"IOT","Advanced Java","J2EE"};
  printf("Enter number of Student : ");
  scanf("%d",&n);
  struct Student student[n];
```

```
for(i=0; i<3; i++)
{
   printf("\n%d - %s", i+1, elective[i]);
}
for(i=0; i<n; i++)
{
   printf("\n Enter the name of student: ");
   scanf("%s", student[i].name);
   printf("\n Enter the choice: ");
   scanf("%d", &student[i].elective);
}
for(i=0; i<n; i++)
{
  if(student[i].elective==1)
{   count[0]++;
  } else if(student[i].elective==2)
  {   count[1]++;
  }
  else {
      count[2]++; }
}
printf("\n Operation 1:\n");
printf("Enter the choice of elective you want to get the list for:\n");
int x;
scanf("%d", &x);
for(i=0; i<n; i++)
{
  if(student[i].elective==x)
  {   printf("%s\n", student[i].name);
  }
}
```

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```
printf("Operation 2\n");
printf("Number of students in %s elective %d\n", elective[0], count[0]);
printf("Number of students in %s elective %d\n", elective[1], count[1]);
printf("Number of students in %s elective %d\n", elective[2], count[2]);
printf("Operation 3\n");
if (count[0]<3)
{ printf("%s student must choose another elective due to less count\n", elective[0]
printf("choose between Advance Java(2) and J2EE(3)\n");
  scanf("%d", &choice);
  for(i=0; i<n; i++){
    if (student[i].elective==1)
    { student[i].elective = choice;
      count[0]--;
      count[choice-1]++;
    }
if (count[1]<3){
printf("%s student must choose another elective due to less count\n");
printf("choose between IOT(1) and J2EE (3)\n");
  scanf("%d", &choice);
  for(i=0; i<n; i++){
    if (student[i].elective==2){
      student[i].elective = choice;}
    count[0]--;
    count[choice-1]++;
  }
if (count[2]<3){
printf("%s student must choose another elective due to less count\n", elective[2]
printf("choose between Advanced Java(1) and J2EE (2)\n");
  scanf("%d", &choice);
  for(i=0; i<n; i++){
    if (student[i].elective==3){
    student[i].elective = choice; }
```

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```
for (i= 0; i<n; i++) {
 if (student[i]. elective =

  count [0]=-
  count [choice-1]++;
 }
}
printf ("Number of student in %s elective : %d \n", elective [0], count[0]);
printf ("Number of students in %s elective : %d\n" , elective [1], count[1]);
Printf (" Number of student in %s elective : %d \n", elective [2], count [2]);

printf ("Operation 4 \n");
for (i=0; i<3; i++) {
printf ("\n Students in %s : \n", electives [i]);
 for(j=0;j<n;j++){
 if (student[j]. elective = = (i+1))
 {
  printf (" > %s\n", student [j]. name);
  }
 }
}
return 0;
}
```