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1. To print the following for n = 4.

```
1
2  3
4  5  6
 7  8  9  10
```

```
import java.util.Scanner;
class triangle
{
    public static void main(String args[])
    {
        int k=0, n,i,j;
        Scanner in = new Scanner(System.in);
        System.out.print("Enter value of n: ");
        n = in.nextInt();
        for(i=1; i<n; i++)
        {
            for(j=1;j<=i;j++)
                System.out.print(++k+" ");
            System.out.println();
        }
    }
}
```

4. Accept CIE and SEE marks and print grade.

```
import java.util.Scanner;
class grade
{
    public static void main(String args[])
    {
        Scanner in = new Scanner(System.in);
        System.out.print("Enter CIE marks: ");
        int cie = in.nextInt();
        System.out.print("Enter SEE marks: ");
        int see = in.nextInt();
        if((cie<0)||(cie>50)||((see)<0)||(see>50))
        {
            System.out.println("Invalid Input");
            System.exit(0);
        }
        int total = cie+see;
        char grade = 'F';
        if(total >= 90)
            grade = 'S';
        else if(total>=80)
            grade = 'A';
        else if(total >=70)
            grade = 'B';
        else if(total >= 60)
            grade = 'C';
        else if(total >= 50)
            grade = 'D';
```

```
else if( total >= 45)
    grade = 'E';
print System.out.print("Grade : "+grade);
}
}
```

~~4. Program to find surface area and volume of cube, sphere and cylinder.~~

5. Print all prime numbers between two integers.

```
import java.util.Scanner;
class primeNumbers
{
    public static void main (String[] args)
    {
        Scanner in = new Scanner(System.in);
        int a = in.nextInt();
        System.out.print("Enter first no. : ");
        int a = in.nextInt();
        System.out.print("Enter second no. : ");
        int b = in.nextInt();
        System.out.println("The prime numbers are :\n");
        for(int i = a; i<=b; i++)
            if(isPrime(i))
                System.out.print(i+" ");
    }
```

```
public static boolean isPrime (int a)
{
    int i;
    boolean flag = true;
    if (a==2)
        return flag;
    for (i=2; i<a; i++)
    {
        if (a%i == 0)
        {
            flag = false
            break;
        }
    }
    return flag;
}
```

6. WAP to print Surface area and volume of sphere, cylinder, cone.

```
import java.util.Scanner;

class Geometry
{
    public static void main(String args[])
    {
        Scanner in = new Scanner(System.in);
        int c=0;
        double area, volume;
        double h, r;
```

```
while(true)
{
    int c=0;
    System.out.println("Enter 1 for Cylinder ");
    System.out.println(" Enter 2 for cone ");
    System.out.println("Enter 3 for Sphere ");
    System.out.println(" Enter -1 to exit ");
    System.out.print("Enter your choice : ");
    c = in.nextInt();
    if(c==-1) break;
    switch area =0.0D;
    volume = 0.0D;
    switch(c)
    {
      case 1:
      {
        double h,r; h=0.0D, r=0.0D;
        system.out.print("Enter height of
        cylinder : ");
        h=in.nextDouble();
        System.out.print("Enter radius of
        cylinder : ");
        r=in.nextDouble();
        area = 2*3.14* r*h+3.14*2*r*r;
        volume = 3.14*r*r*h;
        system.out.println("Surface area = "
          + area);
        System.out.println("Volume = "+volume);
        break;}
```

```
case 2:{
    h=0.0D, r=0.0D;
    system.out.print("Enter height of
    cone : ");
    h= in.nextInt();
    System.out.print("Enter radius of
    cone : ");
    r = in.nextInt();
    area = 3.14*r*r +3.14*r* Math.sqrt
    (h*h+ r*r);
    Volume = 3.14**r*r*h/3;
    System.out.println("Surface area =
    " +area);
    System.out.println("Volume = "+
    Volume);
    break;
}
case 3:
{
    r=0.0D;
    System.out.print("Enter radius of
    Sphere : ");
    r = in.nextDouble();
    area = 4*3.14*r*r;
    Volume = 3.14*r*r/3;
    System.out.println("Surface area ="
    +area);
    System.out.println("Volume = "+volume);
    break;
}
```

```
default:
{
    System.out.println("\n\nInvalid Input
    \n\n");
    break;
}
}
}
}
```

7. Student Course registration.

```
#include <stdio.h>
# define MAX 100
int main()
{
    int n=0, i=0, c=0, c1=0, c2=0, c3=0;
    int f1=1, f2=1, f3=1;
    char tot[MAX][20], arg[MAX][20],
    dee[MAX][20];
    printf("Enter number of students: ");
    scanf("%d", &n);
    for(i=0; i<n; i++)
    {
        if(f1)
            printf("Enter 1 for IOT \n");
        if(f2)
            printf("Enter 2 for Advanced Java
            \n");
        if(f3) printf("Enter 3 for J2EE \n");
```

```
printf("Enter -1 to exit \n");
printf("Enter your choice : ");
scanf("%d", &c);
if(c == -1)
    break;
switch(c)
{
    case 1:
        printf("Enter your name : ");
        gets(st[c1++]);
        break;
    case 2:
        printf("Enter your name : ");
        gets(aj[c2++]);
        break;
    case 3:
        printf("Enter your name : ");
        gets(j2ee[c3++]);
        break;
    default:
        printf("\n\n Invalid Input \n\n");
        break;
}
```

```
if(i==n)
{
    n=0; ~~i=0;~~
    i=-1;
    if(c1<30)
    {
        f1=0;
        n=n+c1;
        c1=0;
    }
    if(c2<30)
    {
        f2=0;
        n=n+c2;
        c2=0;
    }
    if(c3<30)
    {
        f3=0;
        n=n+c3;
        c3=0;
    }
}
printf("Number of students in each course\n");
printf("IOT = %d\n", c1);
printf("Advanced Java = %d\n", c2);
printf("J2EE = %d\n", c3);
```

```
printf("Students enrolled in courses:\n\n");

if(f1){
printf("From IOT:\n\n");
for(i=0; i<c1; i++)
{
        puts(iot[i]);
        printf("\n");
}
}
if(f2){
printf("From Advanced Java:\n\n");
for(i=0; i<c2; i++)
{
        puts(aj[i]);
        printf("\n");
}
}
if(f3)
{
    printf("From J2EE:\n\n");
    for(i=0;i<c3;i++)
    {
        puts(j2ee[i]);
        printf("\n");
    }
}
return 0;
}
```