

Q) Write a C/Java program to accept a number n from the user and print n rows of output as given below if $n = 4$.

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

Code:

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

```
void main()
```

```
{
```

```
int a[100][100], i, j, n, z = 1;
```

```
printf("Enter Number of rows: ");
```

```
scanf("%d", &n);
```

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

```
{
```

```
printf("\n");
```

```
for (j = 0; j <= i; j++)
```

```
printf("%d ", z++);
```

```
}
```

```
}
```



```
1 #include<stdio.h>
2 void main()
3 {
4     int a[100][100],i,j,n,z=1;
5     printf("Enter Number of rows:");
6     scanf("%d",&n);
7     for(i=0;i<n;i++)
8     {
9         printf("\n");
10        for(j=0;j<=i;j++)
11            printf("%d ",z++);
12    }
13 }
```



× Terminal



Enter Number of rows:5

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
Process finished.
```

× Terminal



Enter Number of rows:11

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31 32 33 34 35 36
37 38 39 40 41 42 43 44 45
46 47 48 49 50 51 52 53 54 55
56 57 58 59 60 61 62 63 64 65 66
Process finished.
```

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BSML925090

EXPERIMENT - 3

RAHIL

Q) Write a C/Java program to accept CIE marks (out of 50) and SEE marks (out of 100) of a student and print his/her grade. Use if else if ladder.

Code:

```
#include <stdio.h>
void main()
{
    float a[5], b[5], c[5], t[5];
    char z;
    for (int i=0; i<5; i++)
    {
        printf("\nEnter CIE marks of subject %d (out of 50):", i);
        scanf("%f", &a[i]);
        printf("\nEnter SEE marks of subject %d (out of 100):", i);
        scanf("%f", &b[i]);
        c[i] = b[i]/2;
        t[i] = a[i] + c[i];
        if (t[i] <= 100 && t[i] >= 90)
        {
            printf("\nYour Final marks for subject %d: %f", i, t[i]);
            printf("\nYour Grade for subject %d: S", i+1);
        }
        else if (t[i] < 90 && t[i] >= 80)
        {
            printf("\nYour Final marks for subject %d: %f", i, t[i]);
            printf("\nYour Grade for subject %d: A", i+1);
        }
        else if (t[i] < 80 && t[i] >= 70)
        {
            printf("\nYour Final marks for subject %d: %f", i, t[i]);
            printf("\nYour Grade for subject %d: B", i+1);
        }
    }
}
```

```

else if (t[i] < 70 && t[i] >= 55)
{
    printf("\n Your Final marks for subject %d: %f", i+1, t[i]);
    printf("\n Your Grade for subject %d: C", i+1);
}
else if (t[i] < 55 && t[i] >= 40)
{
    printf("\n Your Final marks for subject %d: %f", i+1, t[i]);
    printf("\n Your Grade for subject %d: D", i+1);
}
else if (t[i] < 40 && t[i] >= 0)
{
    printf("\n Your Final marks for subject %d: %f", i+1, t[i]);
    printf("\n Your Grade for subject %d: F", i+1);
}
}

```



gradeOfsub.c

Saved



```
1 #include<stdio.h>
2 void main()
3 {
4     float a[5],b[5],c[5],t[5];
5     char z;
6     for(int i=0;i<5;i++)
7     {
8         printf("\nEnter CIE marks of subject %d(out of 50):",i+1);
9         scanf("%f",&a[i]);
10        printf("\nEnter SEE marks of subject %d(out of 100):",i+1);
11        scanf("%f",&b[i]);
12        c[i]=b[i]/2;
13        t[i]=a[i]+c[i];
14        if(t[i]<=100 && t[i]>=90)
15        {
16            printf("\nYour Final marks for subject %d: %f",i+1,t[i]);
17            printf("\nYour Grade for subject %d:S",i+1);
18        }
19        else if(t[i]<90 && t[i]>=80)
20        {
21            printf("\nYour Final marks for subject %d: %f",i+1,t[i]);
22            printf("\nYour Grade for subject %d:A",i+1);
23        }
24        else if(t[i]<80 && t[i]>=70)
25        {
26            printf("\nYour Final marks for subject %d: %f",i+1,t[i]);
27            printf("\nYour Grade for subject %d:B",i+1);
28        }
29        else if(t[i]<70 && t[i]>=55)
30        {
31            printf("\nYour Final marks for subject %d: %f",i+1,t[i]);
32            printf("\nYour Grade for subject %d:C",i+1);
33        }
34        else if(t[i]<55 && t[i]>=40)
35        {
36            printf("\nYour Final marks for subject %d: %f",i+1,t[i]);
37            printf("\nYour Grade for subject %d:D",i+1);
38        }
39        else if(t[i]<40 && t[i]>=0)
40        {
41            printf("\nYour Final marks for subject %d: %f",i+1,t[i]);
42            printf("\nYour Grade for subject %d:F",i+1);
43        }
44    }
45 }
```

Try Dcoder's keyboard





```
Enter CIE marks of subject 1(out of 50):40
Enter SEE marks of subject 1(out of 100):42
Your Final marks for subject 1: 61.000000
Your Grade for subject 1:C

Enter CIE marks of subject 2(out of 50):32
Enter SEE marks of subject 2(out of 100):49
Your Final marks for subject 2: 56.500000
Your Grade for subject 2:C

Enter CIE marks of subject 3(out of 50):45
Enter SEE marks of subject 3(out of 100):95
Your Final marks for subject 3: 92.500000
Your Grade for subject 3:S

Enter CIE marks of subject 4(out of 50):24
Enter SEE marks of subject 4(out of 100):30
Your Final marks for subject 4: 39.000000
Your Grade for subject 4:F

Enter CIE marks of subject 5(out of 50):40
Enter SEE marks of subject 5(out of 100):86
Your Final marks for subject 5: 83.000000
Your Grade for subject 5:A
Process finished.
```


- Q) Write C/Java prg to print the prime numbers b/w gn two integers (inclusive). Accept 2 integers from user.

code:

```
#include <stdio.h>

int Prime (int n)
{
    int j, fl = 1;
    for (j = 2; j <= n / 2; ++j)
    {
        if (n % j == 0)
        {
            fl = 0;
            break;
        }
    }
    return fl;
}

int main()
{
    int n1, n2, fl, i;
    printf("Enter two positive integers: ");
    scanf("%d %d", &n1, &n2);
    printf("Prime numbers between %d and %d are: ", n1, n2);
    for (i = n1; i <= n2; ++i)
    {
        fl = Prime(i);
        if (fl == 1)
            printf("%d ", i);
    }
    return 0;
}
```



PrimeNos.c 



Saved

```
1 #include<stdio.h>
2 void main()
3 {
4     int n,j,k=0;
5     printf("Enter Number Of Rows:");
6     scanf("%d\n",&n);
7     for(int i=1;i<n;i++)
8     {
9         if(i%2!=0)
10            for(int j=k+1;j<k+i;j++)
11            {
12                printf("%d\n",j);
13                k=++j;
14            }
15        else
16        {
17            k=k+i-1;
18            for(j=k;j>k-i+1;j--)
19                printf("%d\n",j);
20        }
21    }
22 }
23 }
```

× Terminal



```
Enter two positive integers: 4  
17  
Prime numbers between 4 and 17 are: 5 7 11 13  
Process finished.
```

x Terminal



```
Enter two positive integers: 2  
9
```

```
Prime numbers between 2 and 9 are: 3 5 7  
Process finished.
```

Q) Write a C/Java prgm to calculate volume and area of cylinder, cone, sphere.

Code:

```
#include <stdio.h>
#include <math.h>
void main()
{
    int a, z;
    float h, r;
    do
    {
        printf("\nEnter height: ");
        scanf("%f", &h);
        printf("\nEnter 1. Cylinder \n 2. Cone \n 3. Sphere ");
        printf("\n Select any shape (1-3): ");
        scanf("%d", &a);
        if (a == 1)
        {
            printf("\nEnter height: ");
            scanf("%f", &h);
            scanf("%f", &h);
            printf("\nEnter radius: ");
            scanf("%f", &r);
            printf("\n Area = %f", (2 * 3.14 * r * h) + (2 * 3.14 * r * r));
            printf("\n Volume = %f", 3.14 * r * r * h);
        }
        else if (a == 2)
        {
            printf("\nEnter height: ");
            scanf("%f", &h);
            printf("\nEnter radius: ");
            scanf("%f", &r);
        }
    }
}
```

```

printf("\n Area = %.f", (3.14 * r * r));
printf("\n Volume = %.f", (3.14 * r * r * h) / 3);
}
else if (a == 3)
{
printf("\n Enter radius: ");
scanf("%f", &r);
printf("\n Area = %.f", (4 * 3.14 * r * r));
printf("\n Volume = %.f", (4 * 3.14 * r * r * r) / 3);
}
else
printf("\n Enter valid choice (1-3)! ");
printf("\n Press 1 to continue or Press 0 to stop");
scanf("%d", &z);
} while (z);
printf("\n Thank you");
}

```




VolAreaShape.c

Saved



```
1 #include<stdio.h>
2 #include<math.h>
3 void main()
4 {
5     int a,z;
6     float h,r;
7     do
8     {
9         printf("\n\n1.Cylinder\n2.Cone\n3.Sphere");
10        printf("\nSelect any shape(1-3):");
11        scanf("%d",&a);
12        if(a==1)
13        {
14            printf("\nEnter height:");
15            scanf("%f",&h);
16            printf("\nEnter radius:");
17            scanf("%f",&r);
18            printf("\nArea=%f",(2*3.14*r*h)+(2*3.14*r*r));
19            printf("\nVolume=%f",3.14*r*r*h);
20        }
21        else if(a==2)
22        {
23            printf("\nEnter height:");
24            scanf("%f",&h);
25            printf("\nEnter radius:");
26            scanf("%f",&r);
27            printf("\nArea=%f",(3.14*r*r)+(3.14*r*sqrt(h*h+r*r)));
28            printf("\nVolume=%f",(3.14*r*r*h)/3);
29        }
30        else if(a==3)
31        {
32            printf("\nEnter radius:");
33            scanf("%f",&r);
34            printf("\nArea=%f",(4*3.14*r*r));
35            printf("\nVolume=%f",(4*3.14*r*r*r)/3);
36        }
37        else
38            printf("\nEnter valid choice(1-3)!");
39        printf("\nPress 1 to continue or Press 0 to stop");
40        scanf("%d",&z);
41    }while(z);
42    printf("\nThank you");
43 }
```

Try Dcoder's keyboard





1.Cylinder

2.Cone

3.Sphere

Select any shape(1-3):1

Enter height:36

Enter radius:25

Area=9577.000000

Volume=70650.000000

Press 1 to continue or Press 0 to stop1

1.Cylinder

2.Cone

3.Sphere

Select any shape(1-3):3

Enter radius:5

Area=314.000000

Volume=523.333333

Press 1 to continue or Press 0 to stop0

Thank you

Process finished.

× Terminal



```
1.Cylinder
2.Cone
3.Sphere
Select any shape(1-3):5

Enter valid choice(1-3)!
Press 1 to continue or Press 0 to stop
```



```
1.Cylinder
2.Cone
3.Sphere
Select any shape(1-3):2

Enter height:4

Enter radius:20

Area=2536.873702
Volume=1674.666667
Press 1 to continue or Press 0 to stop0

Thank you
Process finished.
```