

```

#include<stdio.h>
#include<math.h>
int main()
{
    float r,h,area,volume;
    int opt;
    char ch;
    const float pi=3.14;
    do{
        printf("For which shape do you want to calculate Area and Volume: \n");
        printf("\n OPTIONS:\n1-Cylinder\n2-Cone\n3-Sphere\n");
        scanf("%d",&opt);
        switch(opt){
            case 1:
                printf("\nEnter the radius of cylinder: ");
                scanf("%f",&r);
                printf("\nEnter the height of cylinder: ");
                scanf("%f",&h);
                area = (2*pi*r*h) + (2*pi*r*r);
                volume = pi*r*r*h;
                printf("\n Area : %f",area);
                printf("\n Volume : %f",volume);
                break;
            case 2:
                printf("\nEnter the radius of Cone: ");
                scanf("%f",&r);
                printf("\nEnter the height of Cone: ");
                scanf("%f",&h);
                area = pi*r*(r+sqrt((h*h + r*r)));
                volume = pi*r*r*(h/3);
                printf("\n Area : %f",area);
                printf("\n Volume : %f",volume);
                break;
            case 3:
                printf("\nEnter the radius of Sphere: ");
                scanf("%f",&r);
                area = 4*pi*r*r;

```

```

32     case 2:
33         printf("\nEnter the radius of Cone: ");
34         scanf("%f",&r);
35         printf("\nEnter the height of Cone: ");
36         scanf("%f",&h);
37         area = pi*r*(r+sqrt((h*h + r*r)));
38         volume = pi*r*r*(h/3);
39         printf("\n Area : %f",area);
40         printf("\n Volume : %f",volume);
41         break;
42     case 3:
43         printf("\nEnter the radius of Sphere: ");
44         scanf("%f",&r);
45         area = 4*pi*r*r;
46         volume = (4/3)*pi*r*r*r;
47         printf("\n Area : %f",area);
48         printf("\n Volume : %f",volume);
49         break;
50     default:
51         printf("Enter valid option!!");
52         break;
53 }
54 printf("\nDo you want to repeat Y/N:\n ");
55 scanf("%s", &ch);
56 }
57 while (ch == 'y' || ch == 'Y');
58 return 0;
59 }

```


For which shape do you want to calculate Area and Volume:

OPTIONS:

1-Cylinder

2-Cone

3-Sphere

2

Enter the radius of Cone: 30

Enter the height of Cone: 45

Area : 7920.644531

Volume : 42390.003906

Do you want to repeat the operation Y/N:

Y

For which shape do you want to calculate Area and Volume:

OPTIONS:

1-Cylinder

2-Cone

3-Sphere

3

Enter the radius of Sphere: 4

Area : 200.960007

Volume : 200.960007

Do you want to repeat the operation Y/N:

Y

For which shape do you want to calculate Area and Volume:

OPTIONS:

DB 1-Cylinder

2-Cone

3-Sphere