USN: 1BM19CS037 NAME: Kizhakel Sharat Prasad

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6) Write a C/Java program which prints the area and volume of any one of the given shapes given below. Accept the choice of shape, appropriate inputs from the user, calculate and display the area and the volume for the same. Repeat this for different shapes till user wishes to stop.

Cylinder: Area: $A = 2\pi rh + 2\pi r^2$ Volume: $V = \pi r^2 h$

Cone: Area: $A = \pi r(r + \sqrt{h^2 + r^2})$ Volume: $V = \pi r^2 h/3$

Sphere: Area: $A = 4\pi r^2$ Volume: $V = (4/3)\pi r^3$

CODE:
```
#include<stdio.h>
#include<stdlib.h>
#include<math.h>
#define pi 3.14
int main()
{
  float r,h;
  float A,V,ans1;
  int ch;
while(ch!='0')
 {
  printf("\n calculate Area and Volume of different
   shapes \n");
 printf("Menu: \n 1. Cylinder \n 2. Cone \n 3. Sphere \n
   Press 0 for Exit \n");
  scanf("%d", &ch);
  switch(ch)
  {
```

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case 0: exit(0);
        break;

case 1:
    printf("Enter the radius:");
    scanf("%f", &r);
    printf("Enter the height:");
    scanf("%f", &h);
    A = (2*pi*r*h) + (2*pi*r*r);
    V = (pi*r*r*h);
    printf("The Area of the cylinder is %f", A);
    printf("\nThe volume of the cylinder is %f", V);
    break;

case 2:
    printf("Enter the radius");
    scanf("%f", &r);
    printf("Enter the height");
    scanf("%f", &h);
    ans1 = h*h + r*r;
    A = pi * r * (r + sqrt(ans1));
    V = (pi*r*r*h)/3.0;
    printf("Area of the cone is %f", A);
    printf("The volume of the cone is %f", V);
    break;

case 3:
    printf("Enter the radius");
    scanf("%f", &r);
    A = 4*pi*r*r;
    V = (4*pi*r*r*r)/3.0;
```