```c
#include<stdio.h>
#include <math.h>
int main()
{
    float area,volume,r,h;
    int i,flag=0;
    float pi=3.14;
    do
    {
    printf("Enter 1:Cylinder\n2:Cone\n3:sphere\n4:exit\n");
    scanf("%d",&i);
    switch(i)
        {
            case 1:
            printf("enter radius\n");
            scanf("%f",&r);
            printf("enter hieght\n");
            scanf("%f",&h);
            area=(2*pi*r*h)+(2*pi*r*r);
            volume=(pi*r*r*h);
            printf("the area and volume of cylinder is %f and %f\n",area,volume);
            break;
            case 2:
            printf("enter radius\n");
            scanf("%f",&r);
            printf("enter hieght\n");
            scanf("%f",&h);
            area=pi*r*(r+sqrt((h*h)+(r*r)));
            volume=pi*r*r*(h/3);
            printf("the area and volume of cone is %f and %f\n",area,volume);
            break;
            case 3:
            printf("enter radius\n");
            scanf("%f",&r);
            area=4*pi*r*r;
            volume=(4/3)*pi*r*r*r;
```

input

```c
    switch(i)
        {
            case 1:
            printf("enter radius\n");
            scanf("%f",&r);
            printf("enter hieght\n");
            scanf("%f",&h);
            area=(2*pi*r*h)+(2*pi*r*r);
            volume=(pi*r*r*h);
            printf("the area and volume of cylinder is %f and %f\n",area,volume);
            break;
            case 2:
            printf("enter radius\n");
            scanf("%f",&r);
            printf("enter hieght\n");
            scanf("%f",&h);
            area=pi*r*(r+sqrt((h*h)+(r*r)));
            volume=pi*r*r*(h/3);
            printf("the area and volume of cone is %f and %f\n",area,volume);
            break;
            case 3:
            printf("enter radius\n");
            scanf("%f",&r);
            area=4*pi*r*r;
            volume=(4/3)*pi*r*r*r;
            printf("the area and volume of sphere is %f and %f\n",area,volume);
            break;
            case 4:
            flag=1;
            break;
        }
    }
        while(flag!=1);

return 0;
```

```
15              printf("enter radius\n");
16              scanf("%f",&r);
```

input

```
Enter 1:Cylinder
2:Cone
3:sphere
4:exit
1
enter radius
2
enter hieght
2
the area and volume of cylinder is 50.240002 and 25.120001
Enter 1:Cylinder
2:Cone
3:sphere
4:exit
2
enter radius
2
enter hieght
2
the area and volume of cone is 30.322523 and 8.373334
Enter 1:Cylinder
2:Cone
3:sphere
4:exit
3
enter radius
2
the area and volume of sphere is 50.240002 and 25.120001
```

input

```
4:exit
2
enter radius
2
enter hieght
2
the area and volume of cone is 30.322523 and 8.373334
Enter 1:Cylinder
2:Cone
3:sphere
4:exit
3
enter radius
2
the area and volume of sphere is 50.240002 and 25.120001
Enter 1:Cylinder
2:Cone
3:sphere
4:exit
3
enter radius
3
the area and volume of sphere is 113.040001 and 84.779999
Enter 1:Cylinder
2:Cone
3:sphere
4:exit
```

d ... : 2

6 #include <stdio.h>
#include <math.h>
int main()
{
float area, volume, r, h;
int i, t=0;
float pi = 3.14;
do
{
printf (" ~~Enter~~ 1. cylinder \n2.cone \n 3 sphere \n4.exit ");
~~scanf (" %d", &i);~~
~~switch~~(i). printf (" Enter choice \n");
scanf (" %d ", &i)
switch (i) {
case 1: printf (" enter radius \n");
scanf (" %f", &r);
printf (" enter height \n");
scanf (" %f", &h);
area = (2*pi*r*h) + (2*pi*r*r);
volume = (pi*r*r*h);
printf (" Area and volume of cylinder is %f and
%f \n", area, volume);
break;
case 2: printf (" enter radius and height \n");
scanf (" %f %f", &r, &h);
area = pi*r*(r + sqrt((h*h) + (r*r)));
volume = pi*r*r*(h/3);
}

```
printf (" Area and volume of cone is %f and %f \n",
        area, volume);

break;

case 3: printf ("enter radius \n");
        scanf ("%f", &r);
        area = 4 * pi * r * r;
        volume = (4/3) * pi * r * r * r;
        printf ("Area and volume of sphere are %f and %f \n",
                area, volume);
        break;

case 4 : t = 1;
         break;
    }
}
 while (t != 1);

return 0;
}
```

o/p: Enter 1. Cylinder

2. Cone

3. sphere
4. exit
Enter the choice : 1

~~Area and volume of cylinder~~

enter the radius : 2

Enter the height : 2

Area and volume of cylinder are 50.240000 and 25.120000

1. Cylinder
2. Cone
3. Sphere
4. Exit

Enter the choice : 2

Enter radius and height : 2 2

Area and volume of ~~of~~ cone are 30.144000 and

8.373333.

1. Cylinder
2. Cone
3. Sphere
4. Exit

Enter the choice : 3

Enter radius : 2

~~Area~~ Area and volume of sphere are 50.24 and 33.49.

1. Cylinder
2. Cone
3. Sphere
4. exit

Enter the choice : 4

exit.

7. #include <stdio.h>
#include <string.h>
void main()
{
char name[100][100];
int stud, l, c;
int i=0;
int j=0;
int k=0;

do
{
printf("Enter the number of students :");
scanf("%d", &stud);
printf("Enter name of student and course
in 1. for internet of things \n
2. for advanced java and J2EE
\n 3. for advanced data structure \n");

for (l=0; l<stud; l++)
{
scanf("%s %d", name[i], &c);

}
for (l=0; l<stud; l++)
{

```
if (c == 1)
    i++;
if (c == 2)
    j++;
if (c == 3)
    k++;
}
}
while ((i < 30) || (j < 30) || (k < 30));
printf (" students in internet of things : %d", i);
printf (" students in advanced java and J2EE : %d", j);
printf ("students in advanced data structure : %d", k);
}
```