INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)
Dundigal, Hyderabad – 500 043

LABORATORY WORK SHEET

Date: 08/08/2022

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Exp No: 10 Experiment Name: PRE PROCESSOR DIRECTIVES

DAY TO DAY EVALUATION:

	Preparation	Algorithm / Performance in the Lab	Source Code / Calculations and Graphs	Program Execution / Results and Error Analysis	Viva	Total
Max. Marks	4	4	4	4	4	20
Obtained	4	4	4	4	4	20

Signature of Lab I/C

START WRITING FROM HERE:

a) Define a macro with one parameter to compute the volume of a sphere. Write a C program using this marco to compute the volume for 3 sphere of radius 5, 10 and 15 meters.

```
#include<stdio.h>
#include<math.h>
#define Pi 3.142
#define volume(r) ((4/3.0)*Pi* Pow(r,3))
void main(){
int r;
float v;
scanf("%d",&r);
v=volume(r);
printf("\n Volume of the sphere v=%.3f",v);
}
```

OUTPUT:

Spheres of radius 5 volume is 314.150000

Spheres of radius 10 volume is 1256.600000

Spheres of radius 15 volume is 2827.350000

b. Define a macro that receives an array and the number of elements in the array as arguements. Write a C program for using this macro to print the elements of the array.

```
#include<stdio.h>
#define printarray(a,l)
int i=0;
while(i<l){
printf("%1.5d",a[i]);
i++;
}
void main(){
int a[10]={10,25,47,56,89,34,68,45,28,03};
printarray(a,10);
}
```

OUTPUT: 10 25 47 56 89 34 68 45 28 03

c) Write symbolic constants for the binary arithmetic operators +, -, * and /. Write a C program to illustrate the use of these symbolic constants.

```
#include<stdio.h>
#define plus +
#define minus -
#define mul *
#define div /
#define mod %
void main(){
```

```
int a=20, b=30;
printf ("\n Addition =%d", a Plus b);
printf ("\n Subtraction =%d", a minus b);
printf ("\n Multiplication =%d", a mul b);
printf ("\n Division =%d", a div b);
printf ("\n Modulus = %d", a mod b);
}
```

OUTPUT:

Addition = 50

Subtraction =-10

Multiplication =600

Division =0

Modulus =20

27/7/22