UNIT 2

Elements of C LAB

1. Write a program (WAP) to display “Hello World”.

```
#include<stdio.h>
int main(){
        printf("Hello World.");
        return 0;
}
```

2. WAP to compute the area of circle using symbolic constant.

```
#include<stdio.h>
#define PI 3.14
int main(){
        float radius, area;
        printf("Enter a radius of a circle:");
        scanf("%f",&radius);
        area=PI*radius*radius;
        printf("Area of circle=%f",area);
        return 0;
}
```

3. WAP to compute an area and circumference of a circle.

```
#include<stdio.h>
int main(){
        float radius, area, circum;
        const float PI=3.14;
        printf("Enter a radius of a circle:");
        scanf("%f",&radius);
        area=PI*radius*radius;
        circum=2*PI*radius;
        printf("Area of circle=%f",area);
        printf("\nCircumference of circle=%f",circum);
        return 0;
}
```

4. WAP to add, subtract, multiply and divide two whole numbers.

```
#include<stdio.h>
int main(){
        int a, b, c;
        float d;
        printf("Enter two numbers:");
        scanf("%d%d",&a,&b);
        c=a+b;
        printf("Sum=%d",c);
        c=a-b;
        printf("\nDifference=%d",c);
        c=a*b;
```

```
        printf("\nProduct=%d",c);
        d=a/b;
        printf("\nDivision=%f",d);
        return 0;
}
```

5. WAP to find simple interest.

```
#include<stdio.h>
int main(){
        float p,t,r,i;
        printf("Enter principal, time and rate:");
        scanf("%f%f%f",&p,&t,&r);
        i=(p*t*r)/100;
        printf("Simple Interest=%f",i);
        return 0;
}
```

6. WAP to convert a temperature given in Celsius to Fahrenheit. (Hint: F=C*9/5+32)

```
#include<stdio.h>
int main(){
        float c,f;
        printf("Enter temperature in Celsius:");
        scanf("%f",&c);
        f=c*9/5+32;
        printf("Converted temperature in Fahrenheit=%f",f);
```

```
    return 0;
}
```

7. WAP to find square root of a given number.

```
#include<stdio.h>
#include<math.h>
int main(){
    float n,s;
    printf("Enter a number:");
    scanf("%f",&n);
    s=sqrt(n);
    printf("Square root of %f is %f",n,s);
    return 0;
}
```

8. WAP to find power of a given number.

```
#include<stdio.h>
#include<math.h>
int main(){
    float n,m,ans;
    printf("Enter a number and its power:");
    scanf("%f%f",&n,&m);
    ans=pow(n,m);
    printf("%f raised to the power %f is %f",n,m,ans);
    return 0;
}
```

9. WAP to find area and perimeter of a rectangle.

```
#include<stdio.h>
#include<math.h>
int main(){
        float l,b,a,p;
        printf("Enter length and breadth:");
        scanf("%f%f",&l,&b);
        a=l*b;
        p=2*(l+b);
        printf("Area of rectangle=%f",a);
        printf("\nPerimeter of rectangle=%f",p);
        return 0;
}
```

10. WAP to find price of n mangos given the price of a dozen mangos.

```
#include<stdio.h>
int main(){
        float priceofDozen,priceofN;
        int n;
        printf("Enter a price for a dozen mangos:");
        scanf("%f",&priceofDozen);
        printf("Enter quantity of mangos:");
        scanf("%d",&n);
        priceofN=priceofDozen/12*n;
        printf("Price of %d mangos is %f",n,priceofN);
        return 0;
}
```

11. WAP to convert pounds to kilograms.

```
#include<stdio.h>
int main(){
        float pound,kilogram;
        printf("Enter pounds:");
        scanf("%f",&pound);
        kilogram=pound/2.2;
        printf("%f pound is equal to %f kilogram.",pound,kilogram);
        return 0;
}
```

12. WAP to find the area between concentric circles.

```
#include<stdio.h>
int main(){
        float r,R,area;
        const float PI=3.14;
        printf("Enter radius of small circle:");
        scanf("%f",&r);
        printf("Enter radius of big circle:");
        scanf("%f",&R);
        area=PI*(R*R-r*r);
        printf("Area between concentric circles=%f",area);
        return 0;
}
```

13. WAP to find the area of triangle if measurement of three sides is given.

```
#include<stdio.h>
#include<math.h>
int main(){
        float a,b,c,s,area;
        printf("Enter three sides of triangle:");
        scanf("%f%f%f",&a,&b,&c);
        s=(a+b+c)/2;
        area=sqrt(s*(s-a)*(s-b)*(s-c));
        printf("Area of triangle=%f",area);
        return 0;
}
```