1.AREA OF A CIRCLE:-

Step 1:-

Radius(r)=7

Area(a)=pi*r*r

Step 2:-

float r=7;

float a=3.14*r*r;

Step 3:-

```c
#include<stdio.h>
int main()
{
    float r=7;
    float a = 3.14* r * r;
    printf("The area of the circle is: %.2f\n", a);
    return 0;
}
```

Step4:-

```c
#include<stdio.h>
int main()
{
    float radius=7;
    float area = 3.14* radius * radius;
    printf("The area of the circle is: %.2f\n", area);
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
int main()
{
    float radius;
    printf("Enter the radius of the circle: ");
    scanf("%f", &radius);
    float area= 3.14* radius * radius;
    printf("The area of the circle is: %.2f\n", area);
    return 0;
}
```

Step 6:-

```c
#include<stdio.h>
int main()
{
    float radius;
    float area;

    printf("Enter the radius of the circle: ");
    scanf("%f", &radius);

    area= 3.14* radius * radius;

    printf("The area of the circle is: %.2f\n", area);

    return 0;
}
```

2. SIMPLE INTEREST AND COMPOUND INTEREST

Step 1:-

P=10000Rs

R= 0.08

T=2

SI= p*r*t

A= p*(1+r/100)^t

CI=A-p

Step 2:-

Float Principal=10000Rs

Float Radius= 0.08

Float Time=2

Float Simple_Interest= principal*rate*time

Float Amount= principal*(1+radius/100)^time

Float Compund_Interest=Amount-principal

Step 3:-

```c
#include<stdio.h>
#include<math.h>
int main()
{
    float p=10000, r=0.08, t=2, si, ci,a;
    si = (p*r*t);
    a= p * pow((1 + r), t);
    ci = a - p;
    printf("Simple Interest = %.2f\n", si);
    printf("Compound Interest = %.2f\n", ci);
}
```

Step 4:-

```c
#include<stdio.h>
#include<math.h>
int main()
{
    float principal=10000;
    float rate=0.08;
    float time=2;
    float simple_interest;
    float compund_interest;
    float amount;
    simple_interest=(principal*rate*time)/100;
    amount=principal*pow((1+rate),time);
    compund_interest=amount-principal;
    printf("Simple Interest=%.2f\n",simple_interest);
    printf("Compound Interest=%.2f\n",compund_interest);
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
#include<math.h>
int main()
{
    float principal;
    float rate;
    float time;
    float simple_interest;
    float compund_interest;
    float amount;

    printf("Enter principal, rate and time\n");
    scanf("%f%f%f",&principal,&rate,&time);

    simple_interest=(principal*rate*time)/100;
    amount=principal*pow((1+rate),time);
    compund_interest=amount-principal;

    printf("Simple Interest=%.2f\n",simple_interest);
    printf("Compound Interest=%.2f\n",compund_interest);

    return 0;
}
```

Step 6:-

```c
#include<stdio.h>
#include<math.h>
int main()
{
    float principal;
    float rate;
    float time;
    float simple_interest;
    float compund_interest;
    float amount;

    printf("Enter principal");
    scanf("%f",&principal);
    printf("Enter rate");
    scanf("%f",&rate);
    printf("Enter time");
    scanf("%f",&time);

    simple_interest=(principal*rate*time)/100;
    amount=principal*pow((1+rate),time);
    compund_interest=amount-principal;

    printf("Simple Interest=%.2f\n",simple_interest);
    printf("Compound Interest=%.2f\n",compund_interest);

    return 0;
}
```

3. AREA AND PERIMETER OF RECTANGLE:-

Step 1:-

Length(l)=20

Breadth(b)=40

Area(a)=L*B

Perimetre(p)=2(L+B)

Step 2:-

int L=20;

int b=40;

int a=l*b;

int p=2(l+b);

Step 3:-

```c
#include<stdio.h>
int main()
{
    float l = 20,b = 40,a,p;
    a = l*b;
    p = 2*(l+b);
    printf("Perimeter of the rectangle = %.2f\n", p);
    printf("Area of the rectangle = %.2f\n", a);
    return 0;
}
```

Step 4:-

```c
#include<stdio.h>
int main()
{
    float length = 20,breadth = 40,area,perimeter;
    area= length*breadth;
    perimeter= 2*(length+breadth);
    printf("Perimeter of the rectangle = %.2f\n", perimeter);
    printf("Area of the rectangle = %.2f\n", area);
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
int main()
{
    float length,breadth,area,perimeter;
    printf("Enter length and Breadth of rectangle: ");
    scanf("%f%f",&length,&breadth);

    area= length*breadth;
    perimeter= 2*(length+breadth);

    printf("Perimeter of the rectangle = %.2f\n", perimeter);
    printf("Area of the rectangle = %.2f\n", area);

    return 0;
}
```

Step 6:-

```c
#include<stdio.h>
int main()
{
    float length;
    float breadth;
    float area;
    float perimeter;

    printf("Enter length of rectangle: ");
    scanf("%f", &length);
    printf("Enter breadth of rectangle: ");
    scanf("%f", &breadth);

    area= length*breadth;
    perimeter= 2*(length+breadth);

    printf("Perimeter of the rectangle = %.2f\n", perimeter);
    printf("Area of the rectangle = %.2f\n", area);

    return 0;
}
```

4. VOLUME OF SPHERE:-

Step 1:-

Radius(r)=7

Volume(v)=1.3*3.14*r*r*r

Step 2:-

```
float radius=7;
float
volume=1.3*3.14*radius*radius*radius
```

Step 3:-

```c
#include<stdio.h>
int main()
{
    float r=7,v;
    v=1.3*3.14*r*r*r;
    printf("Volume of sphere=%.2f\n",v);
    return 0;
}
```

Step 4:-

```c
#include<stdio.h>
int main()
{
    float radius=7,volume;
    volume=1.3*3.14*radius*radius*radius;
    printf("Volume of sphere=%.2f\n",volume);
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
int main()
{
    float radius,volume;
    printf("Enter radius of sphere: ");
    scanf("%f",&radius);
    volume=1.3*3.14*radius*radius*radius;
    printf("Volume of sphere=%.2f\n",volume);
    return 0;
}
```

Step 6:-

```c
#include<stdio.h>
int main()
{
    float radius;
    float volume;

    printf("Enter radius of sphere: ");
    scanf("%f",&radius);

    volume=1.3*3.14*radius*radius*radius;
    printf("Volume of sphere=%.2f\n",volume);

    return 0;
}
```

5. PERCENTAGE OF 4 NUMBERS

Step 1:-

a=10

b=20

c=35

d=5

Step 2:-

```
int a=10;
int b=20;
int c=35;
int d=5;
```

Step 3:-

```c
#include<stdio.h>
int main()
{
    int a=10, b=20, c=35, d=5,sum;
    float p;
    sum=a+b+c+d;
    p=(sum/400)*100;
    printf("Percentage=%.2f\n",p);
    return 0;
}
```

Step 4:-

```c
#include<stdio.h>
int main()
{
    int first_no=10, second_no=20, third_no=35, fourth_no=5,sum;
    float p;
    sum=first_no+second_no+third_no+fourth_no;
    p=(sum/400)*100;
    printf("Percentage=%.2f\n",p);
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
int main()
{
    int first_no;
    int second_no;
    int third_no;
    int fourth_no,sum;
    float percentage;

    printf("Enter 4 Numbers: ");
    scanf("%d%d%d%d",&first_no,&second_no,&third_no,&fourth_no);

    sum=first_no+second_no+third_no+fourth_no;
    percentage=(sum/400)*100;

    printf("Percentage=%.2f\n",percentage);

    return 0;
}
```

Step6:-

```c
#include<stdio.h>
int main()
{
    int first_no;
    int second_no;
    int third_no;
    int fourth_no;
    int sum;
    float percentage;

    printf("Enter First Number: ");
    scanf("%d",&first_no);
    printf("Enter Second Number: ");
    scanf("%d",&second_no);
    printf("Enter Third Number: ");
    scanf("%d",&third_no);
    printf("Enter Fourth Number: ");
    scanf("%d",&fourth_no);

    sum = first_no+second_no+third_no+fourth_no;
    percentage=(sum/400)*100;

    printf("Percentage=%.2f\n",percentage);

    return 0;
}
```

6. TEMPERATURE CHANGE:-

Step 1:-

Celcius(c)

Fahrenheit(f)=1.8*(C+32)

Step 2:-

Float c=40

Float Fahrenheit=1.8*(c+32)

Step 3:-

```c
#include<stdio.h>
int main()
{
    int c=40, f;
    f=1.8*(c+32);
    printf("Temperature in Fahrenheit is= %d\n",f);
    return 0;
}
```

Step 4:-

```c
#include<stdio.h>
int main()
{
    int celcius=40, fahrenheit;
    fahrenheit=1.8*(celcius+32);
    printf("Temperature in Fahrenheit is= %d\n",fahrenheit);
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
int main()
{
    float celcius;
    float fahrenheit;
    printf("Enter temperature in Celcius: ");
    scanf("%d",&celcius);
    fahrenheit=1.8*(celcius+32);
    printf("Temperature in Fahrenheit is= %d\n",fahrenheit);
    return 0;
}
```

Step 6:-

```c
#include<stdio.h>
int main()
{
    float celcius;
    float fahrenheit;

    printf("Enter temperature in Celcius: ");
    scanf("%d",&celcius);

    fahrenheit=1.8*(celcius+32);

    printf("Temperature in Fahrenheit is= %d\n",fahrenheit);

    return 0;
}
```

7. EVEN AND ODD

Step 1:-

a=6

if a%2 is equal to 0

a is even

else

a is odd

Step 2:-

int num=6;

if(num%2==0)

num is even;

else

num is odd;

Step 3:-

```c
#include<stdio.h>
int main()
{
    int a=6;
    if(a%2==0){
        printf("Even Number\n");}
    else{
        printf("Odd Number\n");}
    return 0;
}
```

Step 4:-

```c
#include<stdio.h>
int main()
{
    int num=6;
    if(num%2==0){
        printf("%d is an Even Number\n"),num;}
    else{
        printf("%d is an Odd Number\n"),num;}
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
int main()
{
    int num;
    printf("Enter a number: ");
    scanf("%d",&num);
    if(num%2==0){
        printf("%d is an Even Number\n"),num;}
    else{
        printf("%d is an Odd Number\n"),num;}
    return 0;
}
```

Step 6:-

```c
#include<stdio.h>
int main()
{
    int num;

    printf("Enter a number: ");
    scanf("%d",&num);

    if(num%2==0)
    {
        printf("%d is an Even Number\n"),num;
    }
    else
    {
        printf("%d is an Odd Number\n"),num;
    }

    return 0;
}
```

8. SLOPE OF A LINE

Step 1:-

Y axis(max)=30

Y axis(min)=10

X axis(max)=20

X axis(min)=10

Slope= (y max-y min)/(x max-x min)

Step 2:-

int y2=30;

int y1=10;

int x2=20;

int x1=10;

slope=(y2-y1)/(x2-x1)

Step 3:-

```c
#include<stdio.h>
int main()
{
    int a=30, aa=10, b=20, bb=10;
    float s;
    s=(a-aa)/(b-bb);
    printf("Slope=%.2f\n",s);
    return 0;
}
```

Step 4:-

```c
#include<stdio.h>
int main()
{
    int y2=30, y1=10, x2=20, x1=10;
    float s;
    s=(y2-y1)/(x2-x1);
    printf("Slope=%.2f\n",s);
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
int main()
{
    int y2, y1, x2, x1;
    float slope;
    printf("Enter y2: ");
    scanf("%d",&y2);
    printf("Enter y1: ");
    scanf("%d",&y1);
    printf("Enter x2: ");
    scanf("%d",&x2);
    printf("Enter x1: ");
    scanf("%d",&x1);
    slope=(y2-y1)/(x2-x1);
    printf("Slope=%.2f\n",slope);
    return 0;
}
```

Step 6:-

```c
#include<stdio.h>
int main()
{
    int y2;
    int y1;
    int x2;
    int x1;
    float slope;

    printf("Enter y2: ");
    scanf("%d",&y2);
    printf("Enter y1: ");
    scanf("%d",&y1);
    printf("Enter x2: ");
    scanf("%d",&x2);
    printf("Enter x1: ");
    scanf("%d",&x1);

    slope=(y2-y1)/(x2-x1);

    printf("Slope=%.2f\n",slope);

    return 0;
}
```

9. ARITHMETIC PROGRESSION

Step 1:-

a=2

d=3

n=5

Ap=a+(n-1)d

Step 2:-

int a=2;

int d=3;

int n=5;

float a_p=a+(n-1)*d;

Step 3:-

```c
#include<stdio.h>
int main()
{
    int a=2,d=3,n=5;
    float a_p;
    a_p=a+(n-1)*d;
    printf("The nth term of Arithmetic progression is=%.2f\n",a_p);
    return 0;
}
```

Step 4:-

```c
#include<stdio.h>
int main()
{
    int first_term=2,common_difference=3,no_of_terms=5;
    float arithmetic_progression;
    arithmetic_progression=first_term+(no_of_terms-1)*common_difference;
    printf("The nth term of Arithmetic progression is=%.2f\n",arithmetic_progression);
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
int main()
{
    int first_term,common_difference,no_of_terms;
    float arithmetic_progression;
    printf("Enter first term of Arithmetic progression: ");
    scanf("%d",&first_term);
    printf("Enter common difference of Arithmetic progression: ");
    scanf("%d",&common_difference);
    printf("Enter number of terms of Arithmetic progression: ");
    scanf("%d",&no_of_terms);
    arithmetic_progression=first_term+(no_of_terms-1)*common_difference;
    printf("The nth term of Arithmetic progression is=%.2f\n",arithmetic_progression);
    return 0;
}
```

Step 6:-

```c
#include<stdio.h>
int main()
{
    int first_term,common_difference,no_of_terms;
    float arithmetic_progression;

    printf("Enter first term of Arithmetic progression: ");
    scanf("%d",&first_term);
    printf("Enter common difference of Arithmetic progression: ");
    scanf("%d",&common_difference);
    printf("Enter number of terms of Arithmetic progression: ");
    scanf("%d",&no_of_terms);

    arithmetic_progression=first_term+(no_of_terms-1)*common_difference;

    printf("The nth term of Arithmetic progression is=%.2f\n",arithmetic_progression);

    return 0;
}
```

10. SUM OF N NATURAL NUMBERS:-

Step 1:-

Limit of Number(n)=5

Sum=n(n+1)/2

Step 2:-

int n=5;

int sum;

sum=(n*(n+1))/2;

Step 3:-

```c
#include<stdio.h>
int main()
{
    int n=5,s;
    s=((n*(n+1))/2);
    printf("Sum of first 5 natural numbers is=%d\n",s);
    return 0;
}
```

Step 4:-

```c
#include<stdio.h>
int main()
{
    int num_limit=5,sum;
    sum=((num_limit*(num_limit+1))/2);
    printf("Sum of first 5 natural numbers is=%d\n",sum);
    return 0;
}
```

Step 5:-

```c
#include<stdio.h>
int main()
{
    int num_limit,sum;
    printf("Enter the natural number limit to be added: ");
    scanf("%d",&num_limit);
    sum=((num_limit*(num_limit+1))/2);
    printf("Sum of first %d natural numbers is=%d\n",num_limit,sum);
    return 0;
}
```

Step 6:-

```c
#include<stdio.h>
int main()
{
    int num_limit,sum;

    printf("Enter the natural number limit to be added: ");
    scanf("%d",&num_limit);

    sum=((num_limit*(num_limit+1))/2);

    printf("Sum of first %d natural numbers is=%d\n",num_limit,sum);

    return 0;
}
```