1. Write a program to calculate compound interest.

```c
#include<stdio.h>
#include<math.h>
int main()
{
    float p,r,t,CI;
    printf("enter the principal (amount):");
    scanf("%f" ,&p);
    printf("enter the rate:");
    scanf("%f" ,&r);
    printf("enter the time:");
    scanf("%f",&t);
    CI=p*(pow((1+r/100) ,t));
    printf("the final amount after applying
compound interest=%.2f\n",CI);
    return 0;
}
```

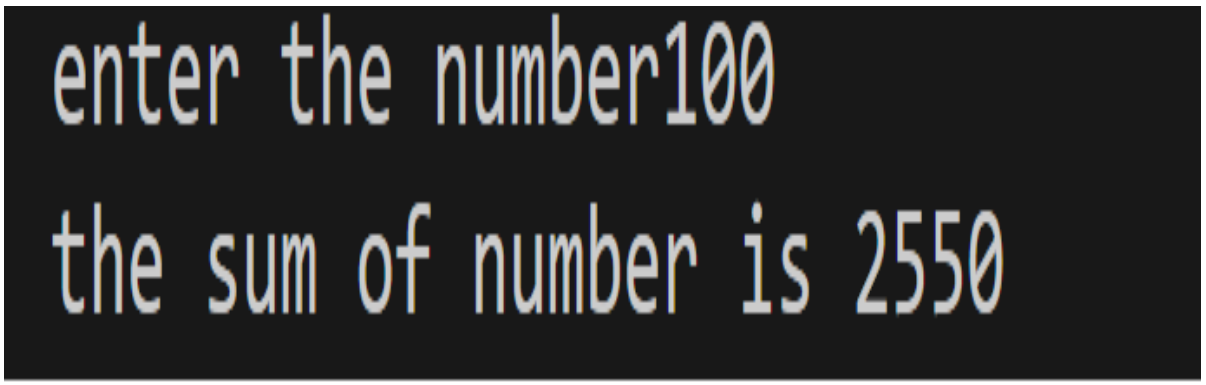
Output:

```
enter the principal (amount):6000
enter the rate:9
enter the time:3
the final amount after applying compound interest=7770.17
```

2. Write a program to find the sum of even numbers up to n.

```c
#include <stdio.h>
int main()
{
    int n;
    printf("enter the number");
    scanf("%d", &n);
    int e = 0;
    int i;
    for (i = 2; i <= n; i = i + 2)
    {
        e = e + i;
    }
    printf("the sum of number is %d", e);
    return 0;
}
```

output:



3. Write a program to show the factorial of n.

```c
#include<stdio.h>
int main()
{
    int n;
    printf("enter the factorial number");
    scanf("%d",&n);
    int fact=1;
    int i;
    for (i=1;i<=n;i++)
    {
        fact=fact*i;
    }
    printf("The factorial number is %d",fact);
    return 0;

}
```

Output:

```
enter the factorial number10
The factorial number is 3628800
```

4.Write a program to calculate the volume of the sphere.

```c
#include<stdio.h>
int main(){
    int r;
    printf("enter the radius");
    scanf("%d",&r);
    float v=4*3.14*r*r*r/3;
    printf("the volume is %.2f",v);
    return 0;
}
```

Output:

```
enter the radius20
the volume is 33493.33
```

5. Write a program to swap two variables.

```c
#include<stdio.h>
int main()
{
    int x,y;
    printf("the value of x");
    scanf("%d",&x);
    printf("the value of y");
    scanf("%d",&y);
    int temp=x;
    x=y;
    y=temp;
    printf("After swapping:x=%d,y=%d",x,y);
    return 0;
}
```

Output:

```
the value of x50
the value of y80
After swapping:x=80,y=50
```

6.Write a program to show tables of even numbers up to n.

```c
#include <stdio.h>
int main ()
{
  int i, j, n;
   printf ("Enter a positive integer: ");
   Scanf("%d", &n);
  for (i=2; i<=n; i+=2)
  {
    printf ("Table of %d:\n", i);
    for (j=1; j<=10; j++)
    {
      printf ("%d x %d = %d\n", i, j, i*j);
    }
    printf ("\n");
  }
  return 0;
}
```

Output:

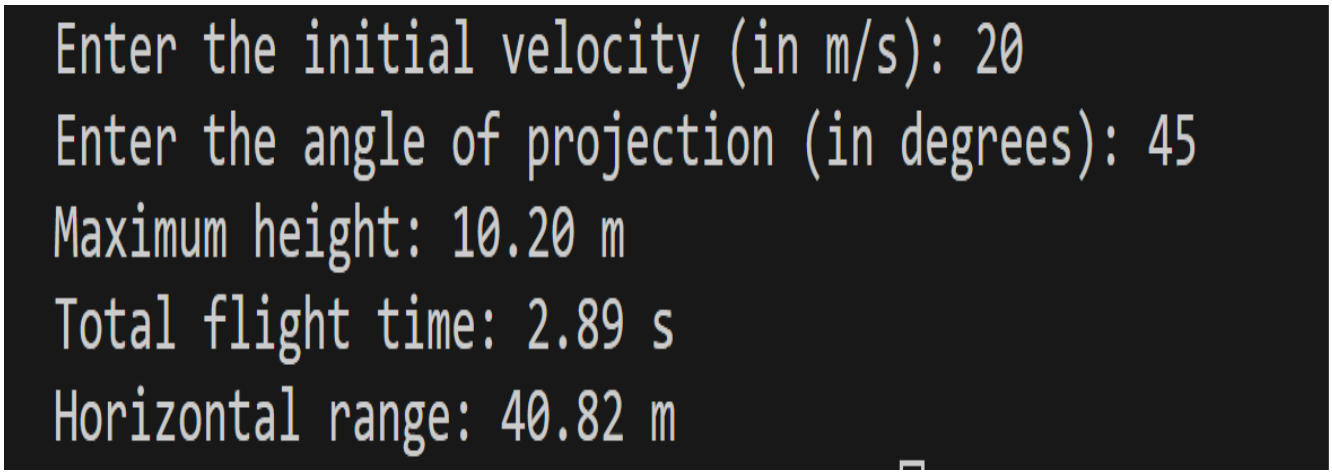
```
Enter a positive integer: 6
Table of 2:
2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
2 x 10 = 20

Table of 4:
4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4 x 10 = 40
```

```
Table of 6:
6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30
6 x 6 = 36
6 x 7 = 42
6 x 8 = 48
6 x 9 = 54
6 x 10 = 60
```

7. Write a program to calculate maximum height,total flight time,horizontal range in projectile motion.

```c
#include <stdio.h>
#include <math.h>
int main()
{
    float u, a, t, hmax, R;
    float pi = 3.14159265;
    float g = 9.8;

    printf("Enter the initial velocity (in m/s): ");
    scanf("%f", &u);
    printf("Enter the angle of projection (in degrees): ");
    scanf("%f", &a);

    float rad = a * pi / 180;
    float sin_a = sin(rad);
    float cos_a = cos(rad);

    hmax = (u * u * sin_a * sin_a) / (2 * g);
    t = (2 * u * sin_a) / g;
    R = u * cos_a * t;

    printf("Maximum height: %.2f m\n", hmax);
    printf("Total flight time: %.2f s\n", t);
    printf("Horizontal range: %.2f m\n", R);

    return 0;
}
```

Output:


Enter the initial velocity (in m/s): 20
Enter the angle of projection (in degrees): 45
Maximum height: 10.20 m
Total flight time: 2.89 s
Horizontal range: 40.82 m

8. Write a program to calculate power via force, distance, time.

```c
#include <stdio.h>
int main()
{
    float force, work, distance,time,power;
    printf("enter the force(in newton):");
    scanf("%f", &force);
    printf("enter the distance(in metres):");
    scanf("%f",&distance);
    work = force * distance;
    printf("enter the time (in second):");
    scanf("%f",&time);
    power = work/time;
    printf("the power is %.2f watts.\n",power);
    return 0;
}
```

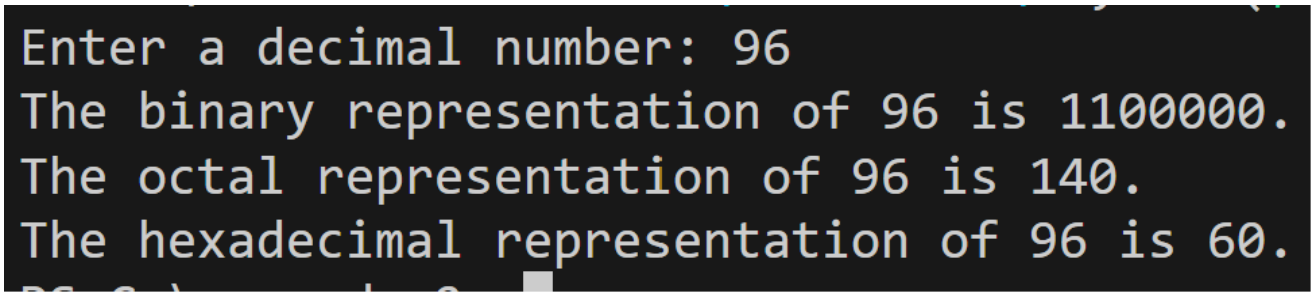
Output:

```
enter the force(in newton):100
enter the distance(in meters):300
enter the time (in second):180
the power is 166.67 watts.
```

9. Write a program to convert a decimal number to its binary, octal, and hexadecimal.

```c
#include <stdio.h>

int decimal_to_binary(int decimal) {
    int binary = 0, base = 1;

    while (decimal > 0) {
        binary += (decimal % 2) * base;
        decimal /= 2;
        base *= 10;
    }

    return binary;
}

int main() {
    int decimal;
    printf("Enter a decimal number: ");
    scanf("%d", &decimal);

    printf("The binary representation of %d is %d.\n",
decimal, decimal_to_binary(decimal));
    printf("The octal representation of %d is %o.\n",
decimal, decimal);
    printf("The hexadecimal representation of %d is %X.\n",
decimal, decimal);

    return 0;
}
```

Output:


Enter a decimal number: 96
The binary representation of 96 is 1100000.
The octal representation of 96 is 140.
The hexadecimal representation of 96 is 60.