Program 1: WAP to print “Hello C” Message

```
#include <stdio.h>
#include <conio.h>
void main()
{
clrscr();
printf("Hello C");
getch();
}
```

Output:

Hello C

Program 2: WAP to print Your Name

```
#include <stdio.h>
#include <conio.h>
void main()
{
clrscr();
printf("Pramod Kumar");
getch();
}
```

Output:

Pramod Kumar

Program 3: WAP to print “Hello How Are You” Message

```
#include <stdio.h>
#include <conio.h>
void main()
{
```

```
clrscr();
printf("Hello How Are You");
getch();
}
```

Output:

Hello How Are You

Program 4: WAP to print “C is a Middle Level Language” Message

```
#include <stdio.h>
#include <conio.h>
void main()
{
clrscr();
printf("C is a Middle Level Language");
getch();
}
```

Output:

C is a Middle Level Language

Program 5: WAP to print a Message as-
Hello
How
Are
You

```
#include <stdio.h>
#include <conio.h>
void main()
{
```

```
clrscr();
printf("Hell0");
printf("\n How");
printf("\n Are");
printf("\n You");
getch();
}
```

Output:

Hello

How

Are

You

Program 6: WAP to print a Message as-
Hello How Are You

```
#include <stdio.h>
#include <conio.h>
void main()
{
clrscr();
printf("Hell0");
printf("\t How");
printf("\t Are");
printf("\t You");
getch();
}
```

Output:

Hello How Are You

Program 6: WAP to print a Message as-

Hello

How

Are

You

```
#include <stdio.h>
#include <conio.h>
void main()
{
clrscr();
printf("Hell0");
printf("\n\t How");
printf("\n\t\t Are");
printf("\n\t\t\t You");
getch();
}
```

Output:

Hello

How

Are

You

Program 7: WAP to print a Message as-

Hello

How

Are

You

```
#include <stdio.h>
#include <conio.h>
void main()
{
clrscr();
printf("/t/t/tHell0");
printf("\n\t/tHow");
printf("\n\tAre");
printf("\nYou");
getch();
}
```

Output:

Hello

How

Are

You

Program 8: WAP to print the square of a number

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num=10, res;
clrscr();
res=num*num;
printf("%d",res);
getch();
}
```

Output:

100

Program 9: WAP to print the square of a number

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num=10, res;
clrscr();
res=num*num;
printf("The Sqaure is =%d",res);
getch();
}
```

Output:

The Square is =100

Program 10: WAP to print the cube of a number

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num=10, res;
clrscr();
res=num*num*num;
printf("%d",res);
getch();
}
```

Output:

1000

Program 11: WAP to print the cube of a number

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num=10, res;
clrscr();
res=num*num*num;
printf("The Cube is =%d",res);
getch();
}
```

Output:

The Cube is =1000

Program 12: WAP to print the addition of two numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num1=10,num2=20, res;
clrscr();
res=num1+num2;
printf("%d",res);
getch();
}
```

Output:

30

Program 13: WAP to print the addition of two integer numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num1=10,num2=20, res;
clrscr();
res=num1+num2;
printf("The Sum is =%d",res);
getch();
}
```

Output:

The Sum is =30

OR

Program 13: WAP to print the addition of two real numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
float num1=10.50, num2=5.25, res;
clrscr();
res=num1+num2;
printf("The Sum is =%f",res);
getch();
}
```

Output:

```
The Sum is =15.750000
```

Program 14: WAP to print the subtraction of two numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num1=30,num2=20, res;
clrscr();
res=num1 - num2;
printf("The Sub is =%d",res);
getch();
}
```

Output:

The Sub is =10

Program 15: WAP to print the multiplication of two numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num1=10,num2=20, res;
clrscr();
res=num1 * num2;
printf("The Mul is =%d",res);
getch();
}
```

Output:

The Mul is =200

Program 16: WAP to print the division of two numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num1=30,num2=10, res;
clrscr();
res=num1 / num2;
printf("The Div is =%d",res);
getch();
}
```

Output:

The Sub is =3

Program 17: WAP to print the division of two numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num1=30,num2=20, res;
clrscr();
res=num1 / num2;
printf("The Div is =%d",res);
getch();
}
```

Output:

The Sub is =1

Program 18: WAP to print the reminder of given numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num1=15,num2=4, res;
clrscr();
res=num1 % num2;
printf("The Reminder is =%d",res);
getch();
}
```

Output:

The Sub is =3

Program 18: WAP to performs basic arithmetic operations

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num1=15,num2=5, add, sub, mul, div, rem;
clrscr();
add=num1 + num2;
sub=num1 - num2;
mul=num1 * num2;
div=num1 / num2;
rem=num1 % num2;
printf("The Addition is =%d", add);
printf("The Subtraction is =%d", sub);
printf("The Multiplication is =%d", mul);
printf("The Division is =%d", div);
printf("The Reminder is =%d", rem);
getch();
}
```

Output:

The Addition is =20

The Addition is =10

The Addition is =75

The Addition is =3

The Addition is =0

Program 19: WAP to performs basic arithmetic operations

```
#include <stdio.h>
#include <conio.h>
void main()
{
int num1=15,num2=5, res;
clrscr();
res=num1 + num2;
printf("The Addition is =%d", res);
res=num1 - num2;
printf("The Subtraction is =%d", res);
res=num1 * num2;
printf("The Multiplication is =%d", res);

res=num1 / num2;
printf("The Division is =%d", res);
res=num1 % num2;
printf("The Reminder is =%d", res);
getch();
}
```

Output:

The Addition is =20

The Addition is =10

The Addition is =75

The Addition is =3

The Addition is =0

Program 20: WAP to performs basic arithmetic operations

```
#include <stdio.h>
#include <conio.h>
void main()
{
int a=15,b=5;
clrscr();
printf("The Addition is =%d", a+b);
printf("The Subtraction is =%d", a-b);
printf("The Multiplication is =%d", a*b);
printf("The Division is =%d", a/b);
printf("The Reminder is =%d", a%b);
getch();
}
```

Output:

The Addition is =20

The Addition is =10

The Addition is =75

The Addition is =3

The Addition is =0

Program 21: WAP to calculate the area of rectangle

```
#include <stdio.h>
```

```
#include <conio.h>
void main()
{
int length=20, breath=15, area;
clrscr();
area=length*breath;
printf("The area of rectangle is =%d", area);
getch();
}
```

Output:

The area of rectangle is= 300

Program 22: WAP to calculate the area of circle

```
#include <stdio.h>
#include <conio.h>
void main()
{
const float pi=3.14;
float r = 4.50, area;
clrscr();
area = pi * r * r;
printf("The area of circle is =%f", area);
getch();
}
```

Output:

The area of circle is= 14.13

Program 23: WAP to calculate the area of triangle

```
#include <stdio.h>
#include <conio.h>
void main()
{
float b = 20.25, h = 30.58, area;
clrscr();
area = (b * h)/2;
printf("The area of triangle is =%f", area);
getch();
}
```

Output:

The area of circle is= 309.6225

Program 23: WAP to convert the given hours into minutes, seconds

```
#include <stdio.h>
#include <conio.h>
void main()
{
Int h=5, m, s;
clrscr();
m = h * 60;
s = m * 60;
printf("Total hours are =%f", h);
printf("Total minutes are =%f", m);
printf("Total second are =%f", s);
```

```
getch();
}
```

Output:

```
The area of circle is= 309.6225
```

Unit – 5

Program 1: WAP to print the addition of two integers.

```
#include <stdio.h>
#include <conio.h>
void main()
{
   int num1, num2, sum;
   clrscr();
   printf("Enter first number: ");
   scanf("%d", &num1);
   printf("Enter second number: ");
   scanf("%d", &num2);
   sum = num1 + num2;
   printf("Sum of the numbers: %d", sum);
  getch();
}
```

Output:

```
Enter first number: 20
Enter second number: 19
Sum of the numbers: 39
```

Program 2: WAP to print the multiplication of two integers.

```
#include <stdio.h>
#include <conio.h>
void main()
{
   int num1, num2, mul;
   clrscr();
   printf("Enter first number: ");
   scanf("%d", &num1);
   printf("Enter second number: ");
   scanf("%d", &num2);
   mul = num1 * num2;
   printf("Multiplication of the numbers: %d", mul);
  getch();
}
```

Output:

Enter first number: 20
Enter second number: 10
Multiplication of the numbers: 200

Program 3: WAP to determining if a number is +ve or –ve.

```
#include <stdio.h>
 #include <conio.h>
void main()
{
   int num;
   clrscr();
   printf("Enter a number: ");
   scanf("%d", &num);
   if (num > 0)
      printf("%d is a positive number ", num);
   else
      printf("%d is a positive number ", num);
   getch();
}
```

Output:

Run 1:

Enter a number: 10

10 is a positive number

Run 2:

Enter a number: -3

-3 is a negative number

Program 4: WAP to determining whether given number is even or odd.

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

Output:
Run 1:
Enter a number: 10
10 is an Even number

Run 2:
Enter a number: 13
13 is an Odd number

Program 5: WAP to find out maximum between two numbers.

```
#include <stdio.h>
 #include <conio.h>
void main()
{
   int num1, num2;
   clrscr();
   printf("Enter two numbers: ");
   scanf("%d%d", &num1, &num2);
   if (num1>num2)
      printf("%d is maximum ", num1);
      else
      printf("%d is maximum ", num2);
    getch();
}
```

Output:

Run 1:

Enter two number: 100 80

100 is maximum

Run 2:

Enter a number: 80 90

90 is maximum

Program 6: WAP to find out maximum number among three numbers.

Solution 1:

```
#include <stdio.h>
 #include <conio.h>
void main()
{
    int num1, num2, num3;
   clrscr();
    printf("Enter three numbers: ");
    scanf("%d%d%d", &num1, &num2, &num3);
    if (num1>num2 && num1>num3)
        printf("%d is maximum ", num1);
    else if(num2>num1 && num2>num3)
        printf("%d is maximum ", num2);
     else
        printf("%d is maximum ", num3);
getch();
}
```

Output 1:

Enter two number: 100 80 50
100 is maximum

Output 2:

Enter a number: 80 100 50
100 is maximum

Output 3:

Enter a number: 80 50 100
100 is maximum

Solution 2

```
#include <stdio.h>
#include <conio.h>
void main()
{
   int n1, n2, n3;
   printf("Enter three numbers: ");
   scanf("%d%d %d", &n1, &n2, &n3);

   if (n1 >= n2)
   {
      if (n1 >= n3)
         printf("%d is the largest number.", n1);
      else
         printf("%d is the largest number.", n3);
   }
   else
   {
      if (n2 >= n3)
         printf("%d is the largest number.", n2);
      else
         printf("%d is the largest number.", n3);
   }
  getch();
}
```

Output 1:

Enter two number: 100 80 50

100 is maximum

Output 2:

Enter a number: 80 100 50

100 is maximum

Output 3:

Enter a number: 80 50 100

100 is maximum

Program 7: WAP to Sum of first N natural numbers

```
#include <stdio.h>
#include <conio.h>
void main()
{
   int num, i, sum = 0;
   clrscr();
   printf(" Enter a positive number: ");
   scanf("%d", &num);
   for (i = 0; i <= num; i++)
   {
      sum = sum + i;
   }
   printf("\n Sum of the first %d numbers is= %d", num, sum);
   getch();
}
```

Output:

```
Enter a positive number: 5
Sum of the first 5 numbers is= 15
```

Program 8: WAP to print the division of two integers.

```
#include <stdio.h>
#include <conio.h>
void main()
{
   int num1, num2, div;
  clrscr();
   printf("Enter first number: ");
   scanf("%d", &num1);
   printf("Enter second number: ");
   scanf("%d", &num2);
   div = num1 / num2;
   printf("Division of the numbers: %d", div);
  getch();
}
```

Output:

```
Enter first number: 20
Enter second number: 5
Division of the numbers: 4
```

Program 9: WAP to print the reverse of the number

```
#include<stdio.h>
 void main()
 {
        int n, reverse=0, rem;
        clrscr();
        printf("Enter a number= ");
        scanf("%d", &n);
        while(n!=0)
          {
                rem=n%10;
                reverse=reverse*10+rem;
                n=n/10;
         }
          printf("Reversed Number= %d",reverse);
        getch();
}
```

Output:

```
Enter a number= 1234
Reversed Number= 4321
```

Program 10: WAP to print the table of given number.

```
#include <stdio.h>
#include <conio.h>
int main()
{
   int num, i = 1;
   clrscr();
   printf (" Enter a number to generate the table= ");
   scanf (" %d", &num);
   printf ("\n Table of %d \n ", num);
   while (i <= 10)
   {
      printf (" %d x %d = %d \n", num, i, (num * i));
      i++;
   }
   getch();
}
```

Output:

```
Enter a number to generate the table= 8
 Table of 8
  8 x 1 = 8
 8 x 2 = 16
 8 x 3 = 24
 8 x 4 = 32
 8 x 5 = 40
 8 x 6 = 48
 8 x 7 = 56
 8 x 8 = 64
 8 x 9 = 72
 8 x 10 = 80
```

Program 11: WAP to calculate the factorial of given number

```
#include<stdio.h>
#include<conio.h>
int main()
{
 int i,fact=1,n;
 clrscr();
 printf("Enter a number: ");
  scanf("%d", &n);
    for(i=1;i<=n; i++)
   {
      fact=fact*i;
   }
  printf("Factorial of %d is: %d", n, fact);
getch();
}
```

Output:

```
Enter a number: 5
Factorial of 5 is: 120
```

Program 12: C program to find the value of nCr(Combination) using function

Logic

To find combination we use the concept of finding factorial of a number and use the standard formula for **nCr=n!/r!*(n-r)!** .

Run of the Program

Take input n=5 and r=3

ncr=fact(n)/fact(r)*fact(n-r) i.e. npr=fact(5)/fact(3)*fact(5-3) i.e. npr=fact(5)/fact(3)*fact(2)

Now function fact() is called.

We now calculate fact(5),fact(3) and fact(2)

int fact(int n)

n=5

Initialize f=1;

1st iteration for(i=1;i<=n;i++) i.e. for(i=1;1<=5;i++)

f=f*i; i.e. f=1*1 i.e. **f=1**

2nd iteration for(i=2;i<=n;i++) i.e. for(i=2;2<=5;i++)

f=f*i; i.e. f=1*2 i.e. **f=2**

3rd iteration for(i=3;i<=n;i++) i.e. for(i=3;3<=5;i++)

f=f*i; i.e. f=2*3 i.e. **f=6**

4th iteration for(i=4;i<=n;i++) i.e. for(i=4;4<=5;i++)

f=f*i; i.e. f=6*4 i.e. **f=24**

5th iteration for(i=5;i<=n;i++) i.e. for(i=5;5<=5;i++)

f=f*i; i.e. f=24*5 i.e. **f=120**

Now we break out of the for loop as i will now be greater than n(5).

In a similar way, we calculate fact(3) & fact(2) for which answer will be 2

Hence 5c3 = 120/6*2 = **10**.

```
#include<stdio.h>
#include<conio.h>

int fact(int);

void main()
{
          int n,r,ncr;
          clrscr();
          printf("Enter the value of n=");
          scanf("%d",&n);
          printf("Enter the value of r=");
          scanf("%d",&r);
          ncr=fact(n)/(fact(r)*fact(n-r));
          printf("Value of %dC%d = %d" ,n ,r, ncr);
          getch();
}

int fact(int n)
{
   int i,f=1;
   for(i=1;i<=n;i++)
   {
      f=f*i;
   }
   return f;
}
```

Output:

Enter the value of n= 5

Enter the value of r= 3

Value of 5C3 = 10

Program 13: WAP to check whether given number is prime or not

```
#include<stdio.h>
#include<conio.h>
void main()
{
int n,i,m=0,flag=0;
clrscr();
printf("Enter the number to check prime:");
scanf("%d", &n);
m=n/2;
for(i=2;i<=m;i++)
{
if(n%i==0)
{
printf("Number is not prime");
flag=1;
break;
}
}
if(flag==0)
printf("Number is prime");
getch();
 }
```

Output

```
Enter the number to check prime:56
Number is not prime

Enter the number to check prime:23
Number is prime
```

Program 14: WAP to find the factors of given number

```
#include<stdio.h>
#include<conio.h>
void main()
{
  int num, i;
  clrscr();
  printf("Enter the number: ");
  scanf("%d",&num);

  printf("Factors of %d are:\n", num);

  for(int i=1; i<=num/2; i++)
  {
    if(num%i==0)
    printf("%d\t", i);
  }

   getch();
}
```

Output:

Enter the number: 12
Factors of 12 are:
1 2 3 4 6

Program 14: WAP to check whether given number is perfect or not

```
#include<stdio.h>
#include<conio.h>
void main()
{
int num,  sum = 0, i;
clrscr();
printf("Enter a number = ");
scanf("%d", &num);
for(i = 1; i < num; i++)
 {
      rem = num % i;
      if (num%i == 0)
      {
        sum = sum + i;
       }
  }
if (sum == num)
                printf(" %d is a Perfect Number");
         else
                printf("\n %d is not a Perfect Number");
getch();
}
```

Output

Run 1:

Enter a number= 28

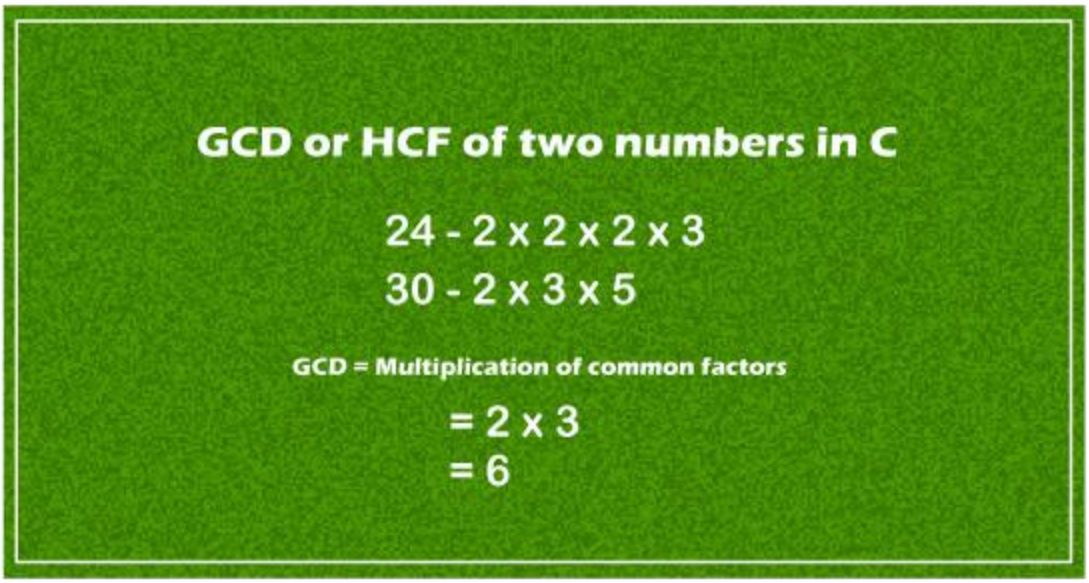
28 is a Perfect Number

Run 2:

Enter a number= 20

20 is not a Perfect Number

Program 15: WAP to find out GCD of two numbers




```
#include <stdio.h>
#include <conio.h>
void main()
{
   int n1, n2, i, res;
   clrscr();
   printf ( " Enter any two numbers: \n ");
   scanf ( "%d %d", &n1, &n2);
   for( i = 1; i <= n1 && i <= n2; ++i)
   {
      if (n1 % i ==0 && n2 % i == 0)
         res = i;
   }
   printf (" GCD of two numbers %d and %d is %d", n1, n2, res);
   getch();
}
```

Output

```
Enter any two numbers:
 24
 30
GCD of two numbers 24 and 30 is 6
```