

(1)

```
{ int a, b;  
cout << "Enter two numbers: " ;  
cin >> a >> b;  
if (a > 0 && b > 0)  
    cout << "Both are positive" ;  
else  
    cout << "Both are Negative" ; }
```

(2)

```
{ int a, b ;  
cout << "Enter two numbers: " ;  
cin >> a >> b ;  
if (a > 0 || b > 0)  
    cout << "At least one is positive" ;  
else  
    cout << "Both are Negative" ; }
```

(3)

```
{ int a ;  
cout << "Enter a number: " ;  
cin >> a ;  
if (!a)  
    printf ("a is zero") ;
```

```
else if (a > 0)  
    printf ("a is positive") ;
```

```
else  
    printf ("a is negative") ; }
```

④ { int a, b ;  
cout << "Enter two numbers : ";  
cin >> a >> b ;  
if ( a > b )  
cout << "First is largest ";  
else if ( b > a )  
cout << "Second is largest ";  
else  
cout << "Both are equal " ; }

⑤ { int a, b ;  
cout << "Enter two numbers : ";  
cin >> a >> b ;  
if ( a == b )  
cout << "a is equal to b " ;  
else  
cout << "a is not equal to b " ; }

⑥ { int a, b ;  
cout << "Enter two numbers : ";  
cin >> a >> b ;  
if ( a != b )  
cout << "a is not equal  
to b " ;  
}

(7) {  
    int num;  
    cout << "Enter a number:";  
    cin >> num;  
    if (num > 0)  
        cout << "Positive";  
    else if (num < 0)  
        cout << "Negative";  
    else  
        cout << "zero"; }

(8) {  
    int num;  
    cout << "Enter a number:";  
    cin >> num;  
    if (num % 2 == 0)  
        cout << "Even";  
    else  
        cout << "Odd";  
}

(9) {  
    int a, b;  
    cout << "Enter two Number:";  
    cin >> a >> b;  
    if (a > b)  
        cout << "First is largest";  
    else if (b > a)  
        cout << "Second is largest";  
    else  
        cout << "Both are equal";  
}

⑥ { int a, b, c;  
cout << "Enter three numbers: ";  
cin >> a >> b >> c;  
if (a >= b && a >= c)  
cout << "First is largest";  
else if (b >= a && b >= c)  
cout << "Second is largest";  
else  
cout << "Third is largest";  
}

⑦ { int marks;  
cout << "Enter marks: ";  
cin >> marks;  
if (marks >= 90)  
cout << "Grade A";  
else if (marks >= 80)  
cout << "Grade B";  
else if (marks >= 70)  
cout << "Grade C";  
else if (marks >= 60)  
cout << "Grade D";  
else  
cout << "Fail";  
}

(12) { char ch;  
cout << "Enter a character : ";  
cin >> ch;  
if (ch == 'a' || ch == 'e' ||  
ch == 'i' || ch == 'o' ||  
ch == 'u' || ch == 'A' ||  
ch == 'E' || ch == 'I' ||  
ch == 'O' || ch == 'U' )  
cout << "Vowel";  
else  
cout << "Consonant";  
}

(13) { char ch;  
cout << "Enter a character : ";  
cin >> ch;  
if ((ch >= 'a' && ch <= 'z') ||  
(ch >= 'A' && ch <= 'Z'))  
cout << "Alphabet";  
else if (ch >= '0' && ch <= '9')  
cout << "Digit";  
else  
cout << "Special character";  
}

(14)

```
{
    int marks;
    cout << "Enter marks : ";
    cin >> marks;
    if (marks >= 50)
        cout << "Pass";
    else
        cout << "Fail";
}
```

(15)

```
{
    int num;
    cout << "Enter a number : ";
    cin >> num;
    if (num % 5 == 0 & num % 11 == 0)
    else
        cout << "Not divisible by both";
}
```

(16)

```
{
    char ch;
    cout << "Enter a character : ";
    cin >> ch;
    if (ch >= 'A' & ch <= 'Z')
        cout << "Upper case";
    else if (ch >= 'a' & ch <= 'z')
        cout << "Lowercase";
    else
        cout << "Not an alphabet";
}
```

```
{ int num;  
cout << "Enter a number: ";  
cin >> num;  
if (num % 2 == 0)  
    cout << " Even";  
else if (num % 2 != 0)  
    cout << " Odd";  
else  
    cout << "Invalid input" ; }
```

(18)

```
{ int num;  
cout << "Enter a number: ";  
cin >> num;  
if (num % 3 == 0)  
    cout << "Multiple of 3";  
else if (num % 7 == 0)  
    cout << "Multiple of 7";  
else  
    cout << "Not a multiple of 3 or 7" ; }
```

(19)

```
{ int num;  
cout << "Enter any positive number: ";  
cin >> num;  
if (num < 0)  
{  
    cout << "Please Enter a positive" << endl;  
}  
else
```

```
{  
    int SqrtNum = sqrt (num) ;  
    if (sqrtNum * sqrtNum == num)  
    {  
        cout << num << " is a perfect square."  
        << endl ;  
    }  
    else  
    {  
        cout << num << " is not a perfect  
        Square." << endl ;  
    }  
}.  
}
```

(20)

```
{  
    int age ;  
    cout << "Enter age : " ;  
    cin >> age ;  
    if (age >= 18)  
        cout << "Eligible to vote " ;  
    else  
        cout << "Not eligible" ;  
}
```

(21)

(21)

```
{  
    int day ;  
    cout << "Enter day number (1-7) : " ;  
    cin >> day ;  
    if (day == 1)  
        cout << "Monday" ;  
}
```

```
else if (day == 2)  
cout << "Tuesday";  
else if (day == 3)  
cout << "Wednesday";  
else if (day == 4)  
cout << "Thursday";  
else if (day == 5)  
cout << "Friday";  
else if (day == 6)  
cout << "Saturday";  
else if (day == 7)  
cout << "Sunday";  
else  
cout << "Invalid day"; }
```

(22)

```
{ int month;  
cout << "Enter your birth month  
number (1 - 12):";  
cin >> month;  
if (month == 1)  
{  
cout << "You were born in January.";  
<< endl;  
}  
else if (month == 2)  
{  
cout << "You were born in February.";  
<< endl;  
}
```

```
else if (month == 3)
```

```
{  
    cout << "You were born in March.";
```

```
<< endl;
```

```
}
```

```
else if (month == 4)
```

```
{  
    cout << "You were born in April.";
```

```
<< endl;
```

```
}
```

```
else if (month == 5)
```

```
{  
    cout << "You were born in May.";
```

```
<< endl;
```

```
}
```

```
else if (month == 6)
```

```
{  
    cout << "You were born in June.";
```

```
<< endl;
```

```
}
```

```
else if (month == 7)
```

```
{  
    cout << "You were born in July.";
```

```
<< endl;
```

```
}
```

```
else if (month == 8)
```

```
{  
    cout << "You were born in August.";
```

```
<< endl;
```

```
{  
    else if (month == 9)
```

```
{  
    cout << "You were born in September.";
```

```
<< endl;
```

```
}
```

```
{  
    else if (month == 10)
```

```
{  
    cout << "You were born in October.";
```

```
<< endl;
```

```
}
```

```
{  
    else if (month == 11)
```

```
{  
    cout << "You were born in November.";
```

```
<< endl;
```

```
}
```

```
{  
    else if (month == 12)
```

```
{  
    cout << "You were born in December.";
```

```
<< endl;
```

```
}
```

```
{  
    cout << "Invalid month number.  
Please enter a number  
between 1 and 12.";
```

```
}
```

(23) {

```
int month;
cout << "Enter month number (1-12):";
cin >> month;
if (month == 2)
    cout << "28 or 29 days";
else if (month == 4 || month == 6 || month == 9 || month == 11)
    cout << "30 days";
else if (month >= 1 & month <= 12)
    cout << "31 days";
else
    cout << "Invalid month";
```

(24) {

```
char op;
int a, b;
cout << "Enter operations (+, -, *, /): ";
cin >> op;
```

cout << "Enter two numbers: ";
cin >> a >> b;

```
if (op == '+')
    cout << a + b;
else if (op == '-')
    cout << a - b;
else if (op == '*')
    cout << a * b;
```

cout << "Enter two numbers consumed: ";
float bill;
cin >> units;
if (units <= 100)
 bill = units \* 1.5;
else if (units <= 200)
 bill = 100 \* 1.5 + (units - 100) \* 2.5;

else if (op == '/')
 cout << a / b;

else
 cout << "Invalid operator";

}

(25) {

```
float bmi;
cout << "Enter BMI: ";
cin >> bmi;
if (bmi < 18.5)
    cout << "Underweight";
else if (bmi < 25)
    cout << "Normal";
else if (bmi < 30)
    cout << "Overweight";
else
    cout << "Obese";
```

}

(26) {

```
int units;
cout << "Enter units consumed: ";
float bill;
cin >> units;
if (units <= 100)
    bill = units * 1.5;
else if (units <= 200)
    bill = 100 * 1.5 + (units - 100) * 2.5;
```

```

else
    bill = 100 * 1.5 + 100 * 2.5 + (units
        - 200) * 3.5; cout << "Bill: " <<
        bill;
}

```

## Operators

1 {

```

int a = 15, b = 4;
cout << "a+b = " << (a+b) << endl;
cout << "a-b = " << (a-b) << endl;
cout << "a*b = " << (a * b) << endl;
cout << "a/b = " << (a/b) << endl;
cout << "%b = " << (a%b) << endl;
}

```

2 {

```

int X = 10, y = 20;
cout << "x = y: " << (x=y) << endl;
cout << "x != y: " << (x!=y) << endl;
cout << "x < y: " << (x < y) << endl;
cout << "x > y: " << (x > y) << endl;
cout << "x <= y: " << (x <= y) << endl;
cout << "x >= y: " << (x >= y) << endl;
}

```

Print m1, m2 on 3<sup>rd</sup>  
cout << "Enter marks for 3 subjects: ";  
cin >> m1 >> m2 >> m3;  
if (m1 >= 40 & & m2 >= 40 & & m3 >= 40)
 cout << "Pass" ;

3 {  
 bool a = true, b = false;  
 cout << "a&&b : " << (a&&b) << endl;  
 cout << "a||b : " << (a||b) << endl;  
 cout << " !a : " << !(a) << endl;  
 cout << " !b : " << !(b) << endl;  
 cout << " << Initial a :" << a << endl;  
 cout << " Post-increment : " << a++ << endl;  
 cout << " After post-increment : " << a << endl;  
 cout << " Pre-increment : " << ++a << endl;  
 cout << " Post-decrement : " << a-- << endl;  
 cout << " After post-decrement : " << a << endl;  
 cout << " Pre-decrement : " << --a << endl;  
 } }

4 {  
 int a = 5, b = 3;  
 cout << "a&b : " << (a&b) << endl;  
 cout << "a||b : " << (a||b) << endl;  
 cout << " !b : " << !(b) << endl;  
 cout << " ~a : " << (~a) << endl;  
 cout << " a&b : " << (a&b) << endl;  
 cout << " a||b : " << (a||b) << endl;  
 cout << " !a : " << !(a) << endl;  
 cout << " ~b : " << (~b) << endl;

5 {  
 int a = 10;  
 cout << "Initial a : " << a << endl;  
 a += 5; cout << "After a+=5 : " << a << endl;  
 a -= 3; cout << "After a-=3 : " << a << endl;  
 \*a = 2; cout << "After \*a=2 : " << a << endl;  
 a /= 4; cout << "After a/4 = 3 : " << a << endl;  
 a %= 3; cout << "After %a = 5 : " << a << endl;

6 {  
 int a = 7;  
 a++; cout << "a after a++ : " << a << endl;  
 cout << "a after a after a++ : " << a << endl;

7 {  
 int a = 7;  
 a += 3; cout << "a after a+=3 : " << a << endl;

10 {

```
int a=5, b=10;  
Pnt max = (a>b)? a:b;  
cout << "Maximum is : " << max  
<< endl;
```

}

## Escape Sequence

{

```
cout << "Hello\nWorld";  
cout << "Name\tAge\nHamood\t20";  
cout << "C:\\Program Files\\My App";  
cout << "She Said , \"Hello !\"";  
cout << "It 's a sunny day.";  
cout << "Hello\rWorld";  
cout << "Hello\b";  
cout << "Warning \a";  
cout << "Hello\fWorld";  
cout << Name \tRoll No.: \nAge \t123  
nSara \ 124";
```

}