

## \* Basic Program.

#include <iostream>

→ Preprocessor (give instruction to the compiler to preprocess the information before actual compilation starts)

see the  
meaning \*

on  
last  
page

int main()

↙  
her  
program  
ke ander ek  
main funct.  
for hoga  
hi.

cout << "Hello World";

return 0;

→ return hote hi fir apne  
scope se bahan aa Jayega.

## \* Value assign Basic program.

int main()

{ int a=12, b=10, z ; } ; 0 written

float f=3.5;

a = a + b;

cout << a; → agar continue karna hai:  
cout << a << " "

OR  
cout << a << "\n"; Jitni blank

cout << a << endl; Jitni blank  
; 0 - i thi space print  
Kaa.

\* To get value from user.

`cin >> a >> b >> d;`

\* Conditional Statements.

- ① Ternary Operators (condition ? statement 1 : statement 2)
- ② if - else
- ③ if - elseif - else
- ④ switch
- ⑤ Nested if - else

### 1. Ternary operators

`int main()`

{

`int i = 15;`

`i > 10 ? cout << "Greater" : cout << "Smaller";`

`return 0;`

}

if true or else

↓

↓

### 2. if - else

`int main()`

{  
`int i = 10;`

condition.

if ( $i > 10$ )

{

cout << "Greater";

}

else

{

cout << "smaller";

}

return 0;

}

### 3. if - elseif - else

int main()

{

int i = 25;

if ( $i > 10$ )

{

cout << "Greater than 10";

}

else if ( $i > 20$ )

{

cout << "Greater than 20";

}

else

{

cout << "Greater";

}

return 0;

}

## 4. Switch

```

int main()
{
    int i = 20;
    switch (i)
    {
        case 10: cout << "Value is 10";
        break;
        case 20: cout << "Value is 15";
        break;
        default: cout << "Not found";
    }
    return 0;
}

```

## \* Loops.

- ① while Loop
  - ② do-while loop
  - ③ for loop
  - ④ infinite loop
  - ⑤ break & continue statements.
-

## for-loop

Jab for loop start  
hoga fab bR ek baar  
gaal hoga.

iteration ÷ jitne baar loop  
chalta h.

$$(1 \% 2) / 1 = 0$$

not equal  
to 0.

int main()  
{     initialization     post execution

for ( int i=0 ; i < 10 ; i++ )

condition → ye condition koi baar  
check hoga.

cout << i << " ";

infinite loop

if we

keep it

balance.

return 0;

}

for( ; ; )

{

cout << "hi" ->

}

## 2 while-loop

int main()

condition

while ( ) Jab fab false hoga fab far chalaga.  
so while(1)

{

cout << "Hi" ->

}

: while >> "Hi" ->

infinite loop

return 0;

}

~~eg 1~~

```
int main()
{
```

```
    int a; (if i : a>i : 0<=i <=i ) {  
        cin>>a;  
        while (a>10)
```

```
        cout<<"Hi";
```

```
        a++; } }
```

```
return 0;
```

}

~~eg 2~~

```
int main()
```

{

```
    int a=0; ↑ And And
```

```
    while (a<10 && a>5)
```

{

```
    cout<<"Hi" << endl;
```

```
    a++; }
```

y

```
return 0;
```

{

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&& → And And [performs 'and' operation b/w Operants]  
|| → OR OR [performs 'or' operation b/w Operants].

3. Do-while } → bas ek difference h, while mein pehle condition check hoga phin chalega bt do-while mein pehle chalega phin condition check hoga.

int main()

{

int a = 4;

do

{

cout << "hi";

a++;

}

while (a > 4);

return 0;

}

4. Continue } loop ko doobara use karne startiy pt ke lepe chala jata h., use badal bhi loop run hoga jab tak condition true hoga

int main()

{ int a = 0;

while (a < 10) ←

{ a++;

if (a == 5)

continue;

cout << a << endl;

}

loop ko upar bhej dega  
necche ka read nhi hoga  
→ bt loop phin se chalega.

5. break;  $\rightarrow$  loop ko first terminate kar dega, dubare loop run hi nahi hoga.

6. int Nested loop  $\rightarrow$  loops in loops.

eg1

```

    *
   * *
  * * *
 * * * *
* * * * *

```

Solu: int main()

{

int n;

cin >> n;

for (int i=1; i<=n; i++)

{

for (int j=1; j<=i; j++)

cout << "\*";

cout << endl;

}

return 0;

(Union tri)

{ 0 = D tri }

$\rightarrow$  (0) > 0) simis

{ ++N }

(2 = 0) fi

{ cout << N }

{ cout << 0 } > 0

Q2~~\*\*\*\*\*~~

\*

\*\*

\*\*\*

\*\*\*\*

\*\*\*\*\*

\*\*\*\*\*

Sol: int main()

{

int n;

for (int i=1; i&lt;n; i++)

{

for (int j=1; j&lt;=n; j++)

{

if (j &lt; (n-i))

cout &lt;&lt; "-";

else

cout &lt;&lt; "\*";

{

cout &lt;&lt; endl;

}

{

return 0;

Output

\* \* \* \* \*

\* \* \* \* \*

\* \* \* \* \*

\* \* \* \* \*

\* \* \* \* \*

```

sol: int main()
{
    int n;
    cin >> n; // (n=>6; i=0 to 5)
    for (int i = 0; i <= n; i++) // (i=0 to n)
    {
        for (int j = 0; j <= (n + (i - 1)); j++)
        {
            if (j <= (i - 1)) // (0 to i-1)
                cout << " ";
            else // (i to n)
                cout << "*";
        }
        cout << endl; // 10 numbers
    }
    return 0;
}

```