Conditionals and doops: Conditionals are used to execute a cortain section of coole only if some specific Condition is Justilled, and optionally execute other statements if given condition is Jule.

The result of the given conditional expression must be either true or Jules. · so, Different variations of this conditional statement are estatement block executed of condition is galse (not suitisfied) - (1) if Statement if-else statement -> (111) ef-close-if est utoment block executed >(ii) Nested if statement if considion is tour (sutisfice). (1) 4- setutement: if statement evaluates the given test expression. If it is evaluated to true, then statement unside their block will be executed. Otherwise, statements inside if block is shipped. if (test\_expression) & Mostatoments to be executed only when test expression is time. (11) if-elise situtement: if statement evaluates the given test expression. If it is evaluated to true, then statements inside the if block will be enecuted. Otherwise, statements inside else block will be executed. After that, west of the statements will be executed normally. Ef (test-expression) {

"// Statements to be extented when test-expression is true.

2 11 statements to be executed when test-expression is false. (118 <u>if-else-if</u>:
Using this we con execute estaments based on multiple conditions.

Deliver Care

Syntax:	
ef (test-expression)	I and water to at extression is there
2 // Statements will be executed	long when test-expression is true.
close if (text-enfruession-2) {	about the house of the ball of the
Modatoments to be executed.	only when test-expression is false and test-exp_2 is
g vale	TO THE PERSON OF
cloe of (test-enjoussion-3)?	you and test-experisfalse and test-exp 3 is tous.
2 Honly executed when test ex	for and test-exp_2 is talde and test-exp3 is bute.
The child is lower in	Ashaga Ande manchela. Angrahi) met on melane fi
elsa S	New House and and and and a second
Cloe &	when all the above test extression are false
3 Marage of the or overland of the	when all the above test enforcession are False
And of all block of statements, only one is	sill be executed based on the goven test expression, all
others will be skipped. As soon as any	will be executed based on the goventest expression, all y expression evaluates its true, that block of Hakman kipped. If none of the expression evaluates to town, will be executed.
- nt will be executed and viest will be st	kipped. If none of the expression evaluates to tour,
than the statements inside else block is	ill be executed.
lv) Nested-if statement:	green and the second of the se
We can put another if-else statement in	sile onif.
Suntage of	
if (test-expression) &	Full minimum to the second of
11 statements to be executed	I when test-expression is true.
9(1001-04)-29	wender of trichlation at of the datements will be
2 11 estatements	: Natural
else {	Mary colony significant
11 Statements to be ex	ecuted only when text-exp-2 is false.
, 4	
<u> </u>	
- Vice month (/C	statements to be a careful and
inta=15; G(arb)v	
Ef(a>20) E	2
if (0720) & Gelde (") will gelde (")	o"emil; output:
3 coud et "Sdi"etc	nol:
2 3	
	The little will be a second

· While Loop: doop selectements allows us to execute a block of statements several no. of itimes depending On cortain consition. while is one kind of loop that we can use. When executing, if the test expression results is true, then the actions inside the log will be executed. This will continue as long as expression result is true. Syntax: while (test-expression) & 1/ Statements to be executed till text-expression is tour. 3 trust check condition After executing 3 while (condition) all statements it will Of condition is true, body of while will be created, otherwise estatement after soop will be executed. again check the condition. Ex: int main() & int main () int i=1; wit n; while (145) & COM FTY coud «i « end) int i=2; itti booldivided = false; while (i<n/2) if(n/i==0) { Output divided = tore; G ( I divided) \$ cout< "Prime" enell; elsef cout << "Prime" "xend!;

return keyword: section is a special reporcel, when encountered ends the main. That mesno, no statement will be executed after the oretion whatement. of the winds of the test specials, wants is such to Cole: for any to granted the out the organice of themps, int main () ? vita=10; (f(a75)\$ " mission to fill the coute "Hello" Le conOl; \* no ever and successful execution of program Coute "Hi" reonal; introduction with Degitaria la !! (with transfer) Was Sight motors in Man de de la contraction de la contessed in the whole were mitina Johnsonte to Celais 7 5.0/9 x (Cel-32); 4 Chairne In (Carry) distant Do- while doops: · No condition check during Let Stereation in do-while loop int main () & mesons that it will goods executed ad least once wheter - vint i=1; || dnitalgation. the condition is the ornot. > cout « "Akshat" ! i « end); 3 = i+1; Hupdation while (i < 5); 11 condition \* Some Ouestions: if (cout & "Hi" 2<0mbl) {

cout & "Hello" 22 enell; if(a>10); { 2' cout ex "Ox" exonol; int c; (cin>) ( cout << i << endl; output: Output = Outfalt: Hello 710

Yatterns: " while There are 2 popular types of fratterns Patterns are good application of loopus. > Towngedar Jatterns Suppose, we want to wint the Jollowing pattern: Here, you can see that we have 4 90000.

123
Now, moving to find the generic no. of columns, it's clear that the 'th' vous 1234 (where i=1,2-) has i columns. Hence, the no. of columns for i-th vous is i. > Yisoually, it's also clear that we want to print no. starting from 1 to the sease -th no. Like for the frist own, we proint no. starting from 1 and ending at 1, for second row no. are starting from 1 cand ending at 2 and soon ..... The above approach can be generalized in the following way: (1) We start to figure out the no. of seven that our pattorn vequires. (ii) Now, we should know how many columns do we have to prent in the generic it how. (iii) Once, we have figured out the no. of exact and columns, then we whould focus on what to print. Cole Example: #include Liastocan> \*\*\*\* abcde #include xiostrum7 \*\*\*\* \*\*\*\* Using namespace stel; abcde using namespace util; \*\*\*\* abcde int main () & \*\*\*\* abcde unt main () E wit n; abide untn; Unmn; cin>n; int (=1) . unt i=1; while (i≤n) & while (i < n) int 1=1; while (jen) & intj=1; while (j < n) { cout < " "; charch = 'a'+j-1; cout «ch; cout «empl;
z i++;
z Soll care J++; cout wendl; of the same The said to

ABCDE Hinclude Liastocom7 ABCD using namespace utd; ABC vint main () { AB wit n; cin 771; int (=1) B. Granatto while li=n)? intj= 71-1+1; while (1>0) charch="A"+j-1; coutech; Cout Kendl; #include Liostreamy 12344321 using namespace std; 123\*\*321 12\*\*\*\*21 int main () { \*\*\*\*\*

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i++;
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