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Q.1 a)

Answers a) An if statement is a programming conditional statement that, if proved true, performs a function or displays information. Below is a general example of an if statement, not specific to any particular programming language.

```
if (X < 10) {  
    print "Hello John";  
}
```

In the example above, if the value of x were equal to any number less than 10, the program displays "Hello John" when the script is run.

Two forms of if statement:-

- a) ELSE
- b) ELIF

IF ELSE :-

If condition returns true then the statements inside the body of "if" are executed and the statements inside body of "else" are skipped.

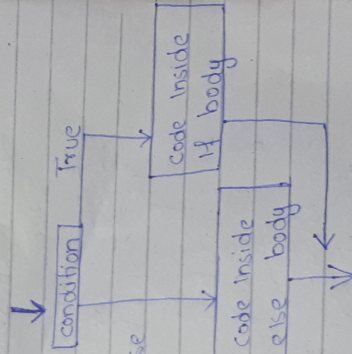
If condition returns false then the statements inside the body of "if" are skipped and the statements in "else" are executed.

For example :-

```

(*) Condition is true
int number = 5;
if (number > 0) {
    // code
}
else {
    // code
}

```



// code after if --- else

```

(*) condition is false.
int number = 5;
if (number < 0) {
    // code
}

```

(3)

```
else {  
    // code  
}  
// code after if ---- else
```

IF ELSIF :- statement executes different codes for more than two conditions.

For example :-

```
The if ---- elseif  
else statement executes different  
codes for more than two conditions  
if (condition) {  
    code to be executed if this  
    condition is true;  
} elseif (condition) {  
    code to be executed if first  
    condition is false and this  
    condition is true;  
} else {  
    code to be executed if all  
    conditions are false;  
}
```

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Q1 b)

Solution:-

```
int main() {  
    int n1, n2;  
  
    cout << "Enter two numbers from keyboard:\n";  
    cout << "enter first number\n";  
    cin >> n1;  
    cout << "enter and number\n";  
    cin >> n2;  
  
    if(n1 >= n2)  
    {  
        cout << "Largest number is:";  
        cout << n1;  
    }  
    else  
    {  
        cout << "Largest number is:";  
        cout << n2;  
    }  
    return 0;  
}
```

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Q2 a)

ANSWERS :- Logical Operators :-

operator is a symbol or word used to connect two or more expressions such that the value of the compound expression produced depends only on that of the original expressions and on the meaning of the operator. Common logical operators include AND, OR, and NOT. Logical operators are used if we want to

compare more than one condition.

For Example :- Logical AND operator if both the operands are non-zero, then condition becomes true.

Logical OR operator, if any of the two operands is non-zero then condition becomes true.

Q2 b)

Solution :-

```
#include <iostream>
#include <conio.h>
using namespace std;
int main()
```

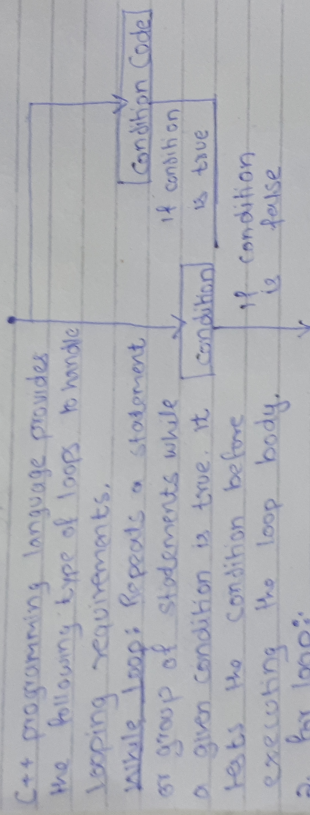
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```
int temp;
cout << " temperature is \n";
cin >> temp;
if (temp >= 40)
{
    cout << "Its very hot \n";
}
else if (temp >= 35 && temp < 40)
{
    cout << "Its tolerable \n";
}
else if (temp >= 30 && temp <= 35)
{
    cout << "Its warm \n";
}
else
{
    cout << "Cool";
}
}
```

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Q3a)

ANSWERS:- A loop statement allows us to execute a statement or group of statements multiple times and following is the general form of a loop statement in most of the programming languages.



Execute a sequence of statements multiple times and abbreviates the code that manages the loop variable.

3) do while loop: Like a 'while' statement except that it tests the condition at the end of the loop body.

4) nested loops: You can use one or more loop inside any another 'while', 'for' or 'do while' loop.

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Q3b)

Solution:-
#include <iostream>
#include <conio.h>
using namespace std;
int main()
{

int number;

cout << "Enter the number \n";

cin >> number;

if (number % 2 == 0)

cout << number << " is an even
number";

else

cout << number << " is an odd number";
return 0;

}

Q4 a)

Answer:- break is used to break or
terminate a loop whenever we want
Just, type break; after the
statement after which you want to
break the loop. As simple as
that.

e.g

```
#include <iostream>  
int main () {
```


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```
using namespace std;
int n;
for (n=1; n <= 5; n++) {
    cout << "x" << endl;
    if (n == 2) {
        break;
    }
    return 0;
}
```

Continue :- Continue statements works similar to break statement. the only difference is that break statement terminates the loop whereas continue statement passes control to the conditional test i.e., where the condition is checked. In short it passes control to the nearest conditional test in do while loop or the condition test of while in while loop or the condition of for. in for statements skipping the next of the statements in the loop.

Q4b)

```
#include <isostream>
#include <conio.h>
using namespace std;
int main ()
```

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```
{
    int i;
    int sum = 0;

    cout << "The First 10 natural numbers
are: \n";
    for (i = 1; i <= 10; i++)
    {
        cout << i << " ";
        sum = sum + i;
    }

    cout << "\n the sum of first 10
natural numbers is \n";
    cout << sum;
    return 0;
}
```

Q5

C++ character set:

In C++, character set is a set of all valid characters that can be used in a C++ program. Character set is used to specify the characters or symbols recognized by the language. For example:-

A-Z, 0-9, @, #, %, ' & (white space)

Constants:- A constant declared with const may not be used to initialize a global or static variable when it is declared (though it may be used to initialize local variables). For example:- # define constant1=5

```
const constant2=10
int variable1=constant1;
int variable2;
// Cannot do; int variable2
= constant2
```

Variables:- Variable is the name of memory location. Unlike constant, variables are changeable we can change value of a variable during execution of a program. Example:- average, height, age, total etc.

Keywords:- Keywords are the reserved keywords that are define by the compiler to perform the internal operation, written in lower case.

Examples:- If: This keyword is used to check the condition. If the condition becomes true, it executes the statement following it. program for implementation

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of If keyword is given as follows

```
#include <iosstream>
using namespace std;
int main ()
{
    int n;
    cout << "Enter number:" << endl;
    cin >> n;
    if (n > 0)
    {
        cout << "You have entered
        positive number";
    }
    return 0;
}
```

Relationed operators:- A relation operator is a programming language construct or operator that tests or defines some kind of relation between two entities. These include numerical equality.

For example:- $5=5$ and Inequalities (e.g $4 > 3$). operators symbols and/or names can vary with different programming languages e.g $<$ less than, $>$ greater than, \leq less than or equal to $=$ equality (equal to) $9 > 8$, $9! = 13$, $9 < 25$.