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ID - 7978

SEC - B

SUB — C++

To,

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Q No - 01

(a) Write a program for your grading system using "If-else statement".

```
# include <iostream>
Using name space std;
int main (void)
{
int mark;
Cout << "Enter students mark:";
Cin >> mark;
if (mark < 40)
Cout << " student grade = F ";
else if (mark < 50)
Cout << " student grade = E";
else if (mark < 60)
Cout << " student grade = D";
else if (mark < 70)
Cout << " student grade = C";
```

```
else if (mark < 80)
Cout << " student grade = B";
else
Cout << " student grade = A";
Cout << "\n";

return 0;
}
```

(b) Differentiate b/w "If- statement" and "If-else statement"

If statement	If-else statement
• The If statement is a decision-making structure that consists of an expression followed by one or more statements.	• The If-else is a decision-making structure in which the if statement can be followed by an optional else statement that executes when the expression is false.
• In If, the statements inside the block executes if the expression is true.	• In If else, the If block executes if the expression is true.
• If the expression is false the next statement after the if block executes.	• If the expression is false the control is passed to the else block.

Q. No. 02

(a) Write a program to display a menu to perform various funtion using "switch statement".

```
# include <iostream>
Using namespace std;
int main() {
    char oper;
    float num1, num2;
    Cout << "Enter an operator (+,-,*,/): ";
    Cin >> oper;
    Cout << " Enter two numbers: " << endl;
    Cin >> num1 >> num2;
    Switch (oper) {
     Case '+':
    Cout << num1 << " + " << num2 << " = " << num1 +
num2;
```

```
    break;
    Case '*';
    Cout << num1 <<"  "<< num2 <<"="<< num1
num2;
     break;
     Case '/':
     Cout << num1 <<"/"<< num2 <<"="<< num1/num2;
     break;
     default:
     //operator is doesn't match any
case   constant (+, -, *, /)
      Cout <<" Error! The operator is not
corrvect";
       break;
    }
     return 0;
    }
```

(b) Differentiate b/w "Nested If-else statement" & "Switch statement"

Nested If-else statement	Switch statement
• The expression inside If statement decides whether to execute the statements inside if block or under else block	• The expression inside a switch statement decides which case to executs.
• You can have multiple if statement for multiple choice of statements.	• In switch you only have one expression for the multiple choice.
• If-else checks for quality as well as for logical expression	• Switch checks only for quality.
• It is difficult to edit If-else statements as it is tedious to trace where correction is required.	• It is easy to edit switch statements as they are easy to trace.

Q - No- 03

(a) Differentiate b/w "Relational operator" and "Relational Expression".

• Relational Operators:

Relational operators are used to compare values of two expressions depending on their relation.

Relational operators are;

< less than.

> Greater than.

<= less than or equal.

>= Greater than or equal

== is equal to.

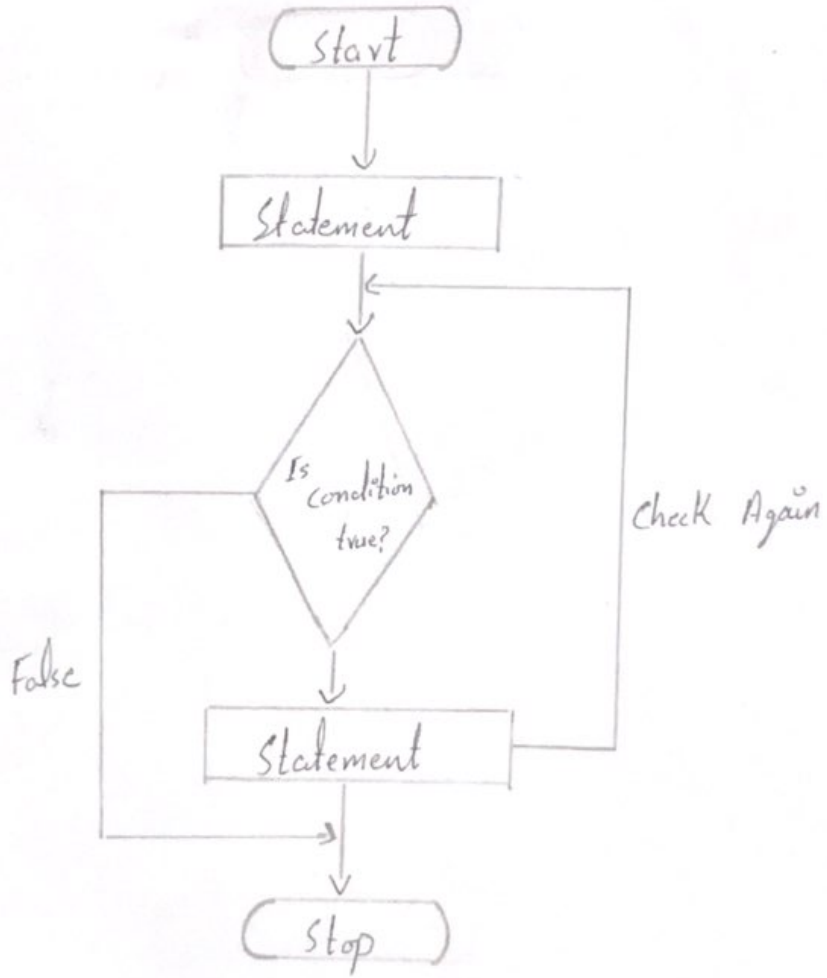
!= is not equal to.

. Relational expression:

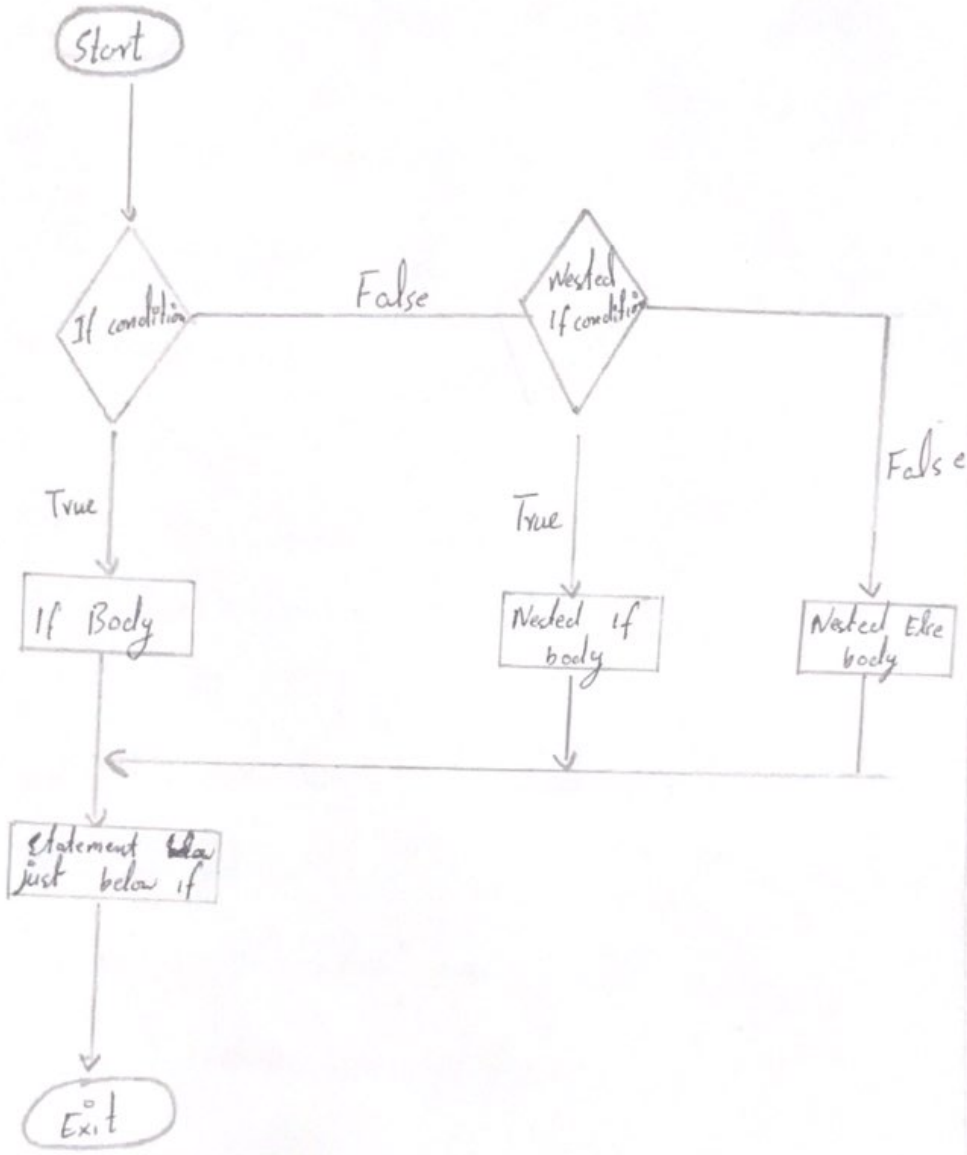
An expression that contains relational operators is called relational expression. If the relation is true value of relational expression is 1 and if the relation is false the value of relational expression is 0.

(b) Draw flow chart for "while loop" and "Nested If statement".

- Flow chart for "while loop":



Flow chart for "Nested" If-else statement:



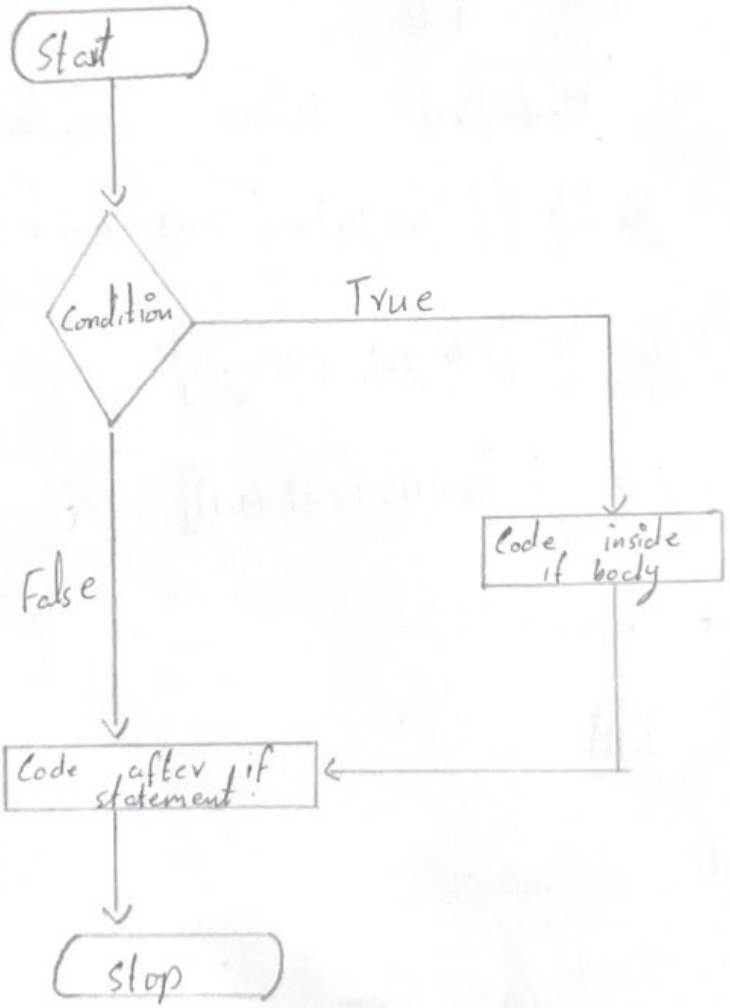
Q-No-04

(a) Write a program in C++ to find the volume of a cylinder.

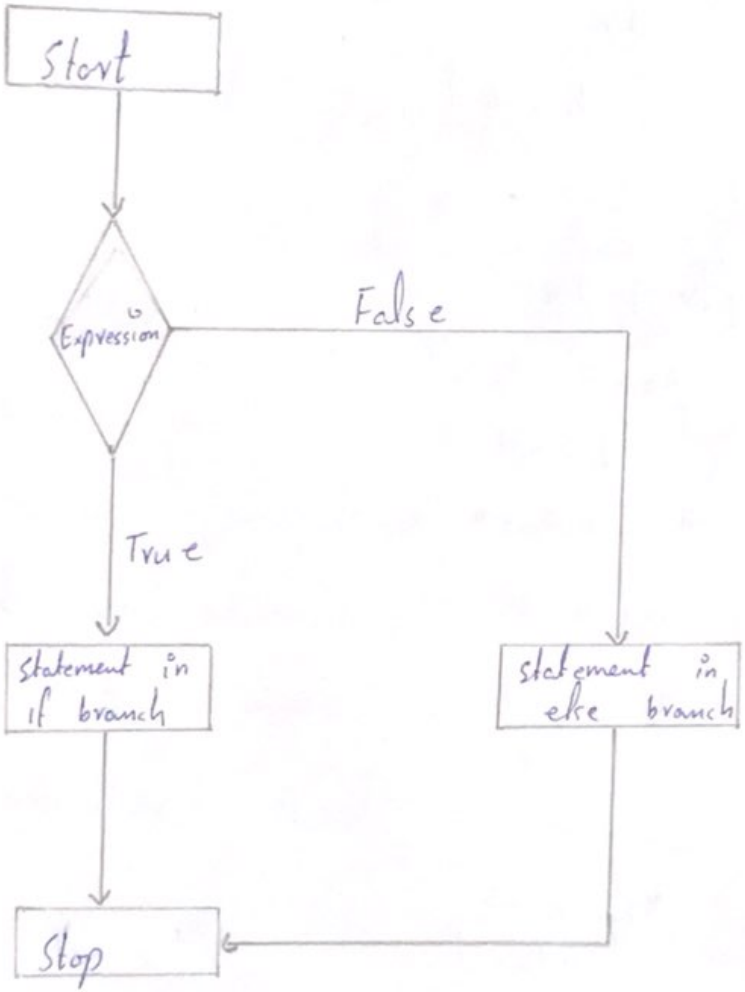
```
#include <iostream>
Using namespace std;
int main()
{
float radius, height, volume;
Cout<<" Enter Radius of cylinder:";
Cin >> radius;
Cout<<" Enter Height of cylinder:";
Cin >> Height;
Volume = 3.14* radius* radius* height;
Cout<<" Volume of cylinder is:;
 << Volume;
 return 0;
 }
```

(b) Draw the flow chart for "If" statement & "If-else" statement

"If" statement:



"If-else" statement:



Q No - 05

(a) What is sequential statement?

Sequential statement:

Sequential statement define algorithms for the execution within a process or a subprogram. They belong to the conventional nations of sequential flow, control, conditionals and iterations in the high level programing languages such as Pascal, C or Ada. They execute in the order in which they appear in the process.

(b) Write a program which performs the arithmetic operation by using all arithmetic operators.

```
int main() {
    char oper;
    float num1, num2;
    cout << "Enter an operator (+,-,*,/): ";
    cin >> oper;
    cout << "Enter two numbers: " << endl;
    cin >> num1 >> num2;
    switch (oper) {
     case '+':
     cout << num1 << " + " << num2 << " = " << num1 +
num2;
     break;
     case '-':
```

```
        Cout << num1 << "-" << num2 << "=" <<
num1 - num2;
        break;
        Case '/':
      Cout << num1 << "/" << num2 << "=" <<
num1/num2;
        break;
        default
        // operation is does't match any
case constant (+,-,*,/)
        Cout << "Error! The operator is not
correct";
        break;
    }
    return 0;
}
```