

Q1

(a) write a program for your grading system using if else statement

```

#include <stdio.h>
int main(void) {
  int num;
  printf("Enter your mark");
  scanf("%d", &num);
  printf("you entered %d", num); // printing outputs

  if (num >= 80) {
    printf("you got A grade"); // printing outputs
  }
  else if (num >= 60) { // note the space between else & if
    printf("you got B grade");
  }
  else if (num >= 40) {
    printf("you got C grade");
  }
  else if (num < 40) {
    printf("you fail in this exam");
  }
  return 0;
}

```

(b) If - statement

If statement is used to execute a set of statement after a condition. The if - statement evaluate a condition. If the given is true, the statement following the if - statement is executed. If the given condition is false, the statement following the if - statement condition is ignored. and the control transfer to the next statement. In other words it can be also defined as single blocked conditional statement in which only one point is mentioned.

(19) If else system:-

This is another form of if statement. It is used for making two way decision.

In this statement one condition and two blocks of statement are given, either one of two blocks of statement is executed after evaluating a condition.

The if-else statement test the given relational conditional. If the condition is true then the first block of statement is executed and if the condition is false then the

first block statement is ignored
and the second block stat-
ment is ~~ignored~~ the following
the else is executed.

It is also known
as double block conditi-
onal statement.

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21) Write a program to display a menu to perform various function by using switch statement.

```
#include <iostream.h>
```

```
#include <conio.h>
```

```
main ( )
```

```
{
```

```
clrscr ( )
```

```
int choice;
```

```
cout << "1: program to input data" << endl;
```

```
cout << "2: program to print data" << endl;
```

```
cout << "3: program to generate report" << endl;
```

```
cout << "4: End" << endl << endl;
```

```
cin >> choice;
```

```
switch (choice) {
```

```
{
```

```
case 1:
```

```
cout << "you have selected the first option";
```

```
break;
```

case 2: you have to select second option"
cout << "you have to select second option"
break;

case 3: you have select third option";
cout << "you have select third option";

case 4: you have select with option";
cout << "you have select with option";

break;

}

cout << "\n OK";

}



(i) Nested If-else statement :-
 It becomes complicated for multi-selections.

(ii) It used an independent expression for each case.

(iii) The test condition can be given in a specified range of values.

If the given condition matches then the statement under it will be executed.

(iv) Switched statement :-

- It is easy to understand for a multiple selection.

- It is used single expression for all case but

Both each case must have a constant value of integer type or character type.

(iii) Only a single expression is given in the switch statement which returns a single value. The test condition can't be given in a specified range it is the major drawback of the switch statement.

Q3

6

Relational Expressions-

A relational expression consist of a constant variable or arithmetic expression that are combine by a relational operator.

A relational expression is used to find a relational expression between two expressions. It returns only one value which is either true or false.

(b) Relational operators

It is a programming language construct or operator that tests or defines some kind of relation

between two entities. These includes the numerical equality (e.g. $5=5$) and in-equalities (e.g. $4 > 3$).

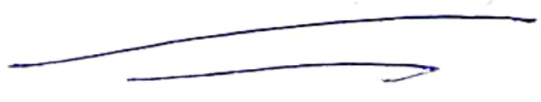
List of C++ relational operators:

$>$ Greater than

$>=$ Greater than or equal to

$<$ Less than

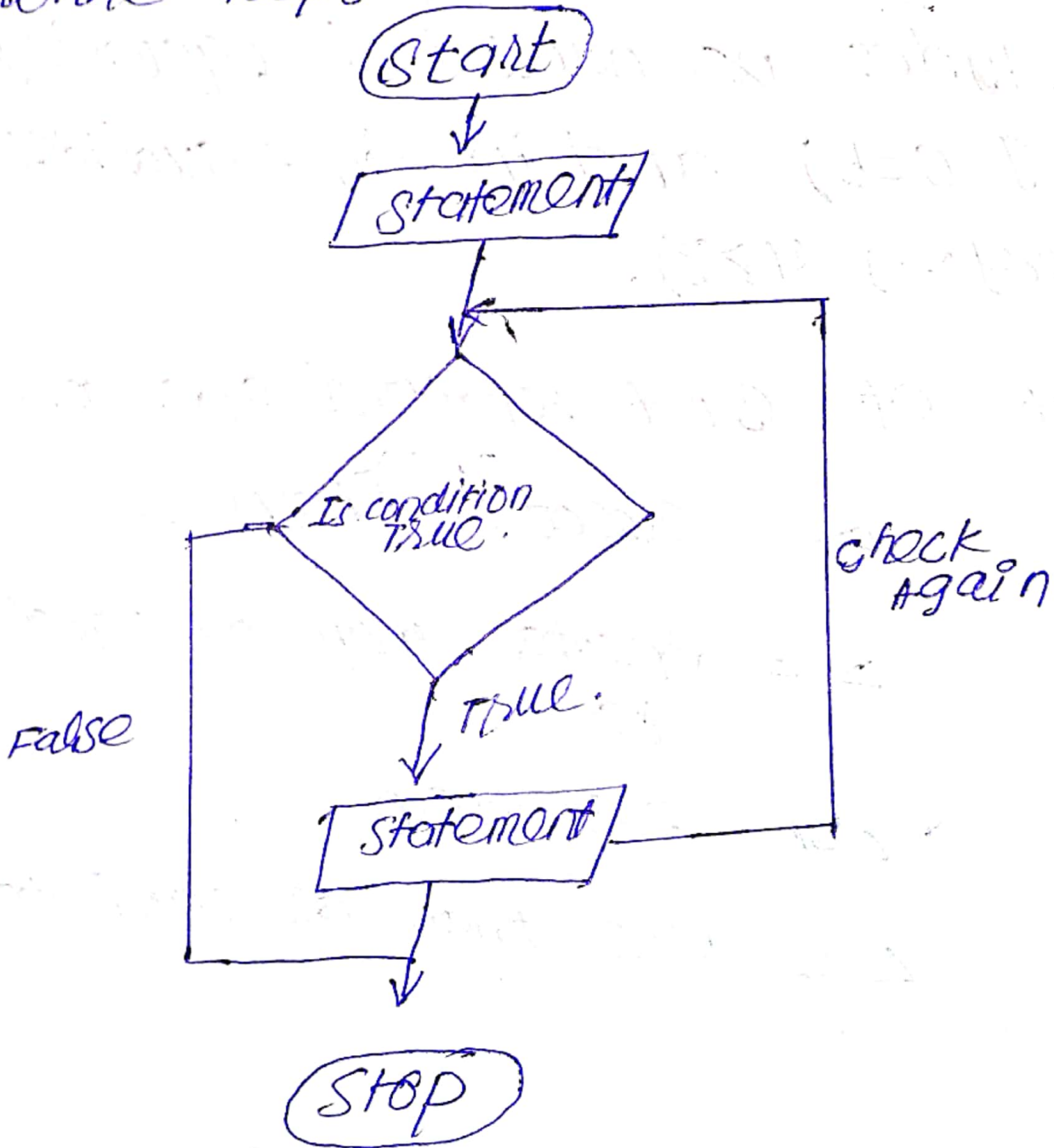
$<=$ Less than or equal to.



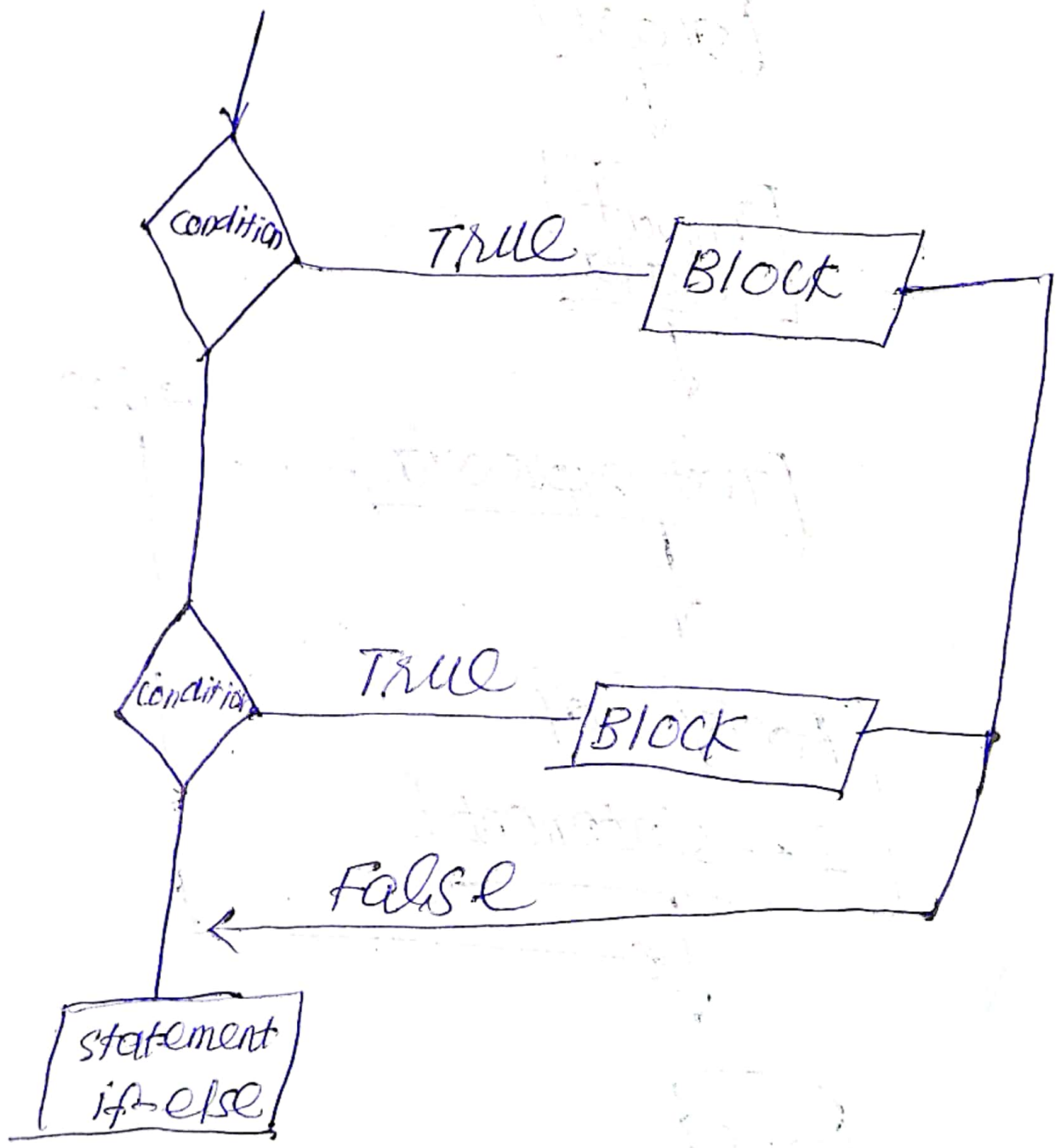
Q3
①

②

While loop :-



Q.10
Nested If-Statement :-



Q4

(a) write a programme to find a volume of a cylinder.

```
#include <iostream.h>
```

```
#include <conio.h>
```

```
main ( )
```

```
{
 clrscr ( ) ;
```

```
float radius, height, volume;
```

```
cout << "Enter the radius = " ;
```

```
cin >> radius ;
```

```
cout << "Enter the height = " ;
```

```
cin >> height ;
```

```
volume = 3.14 * radius * radius * height ;
```

```
cout << "Volume of cylinder = "
<< volume ;
```

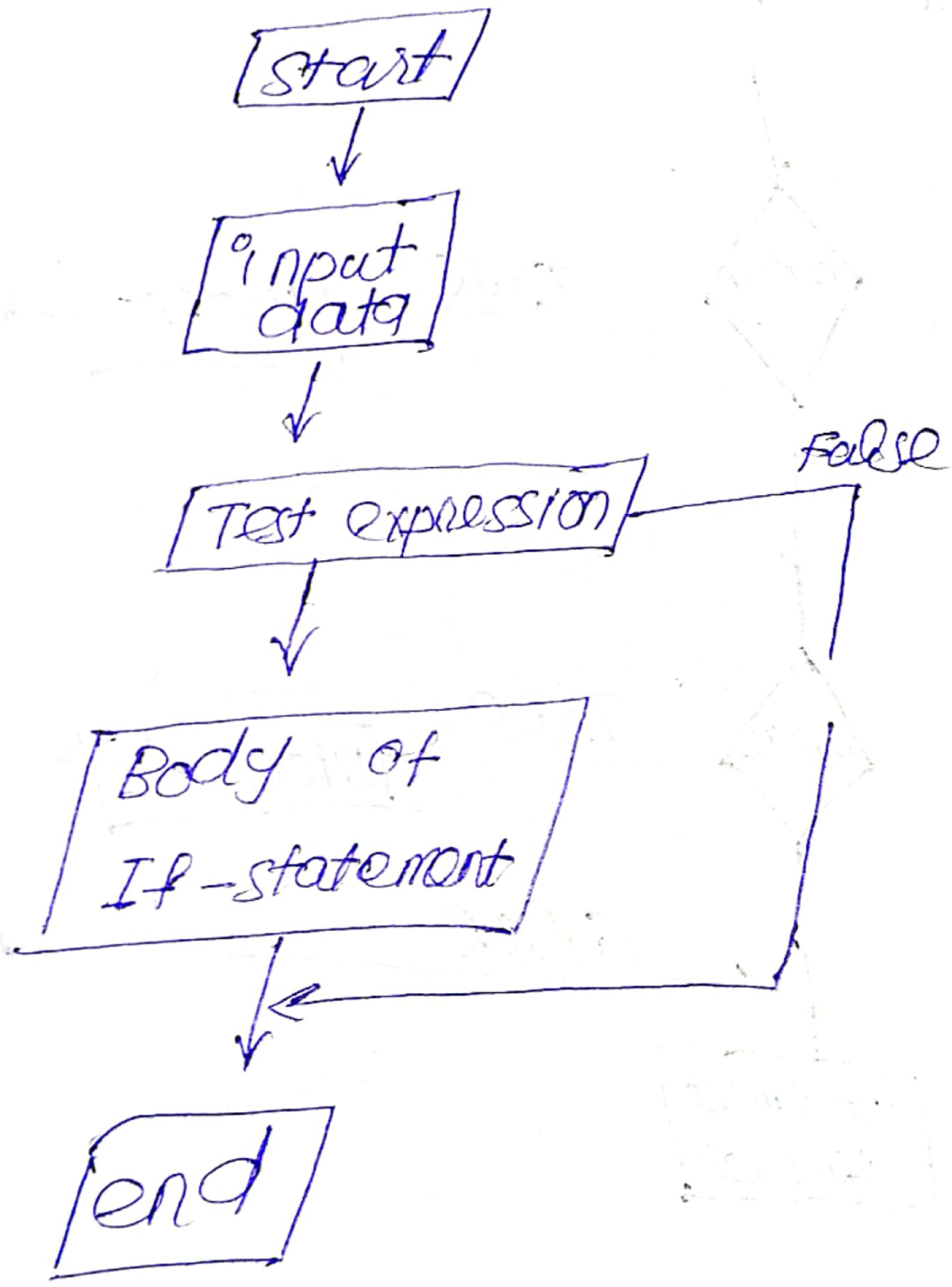
```
getch ;
```

```
}
}
```

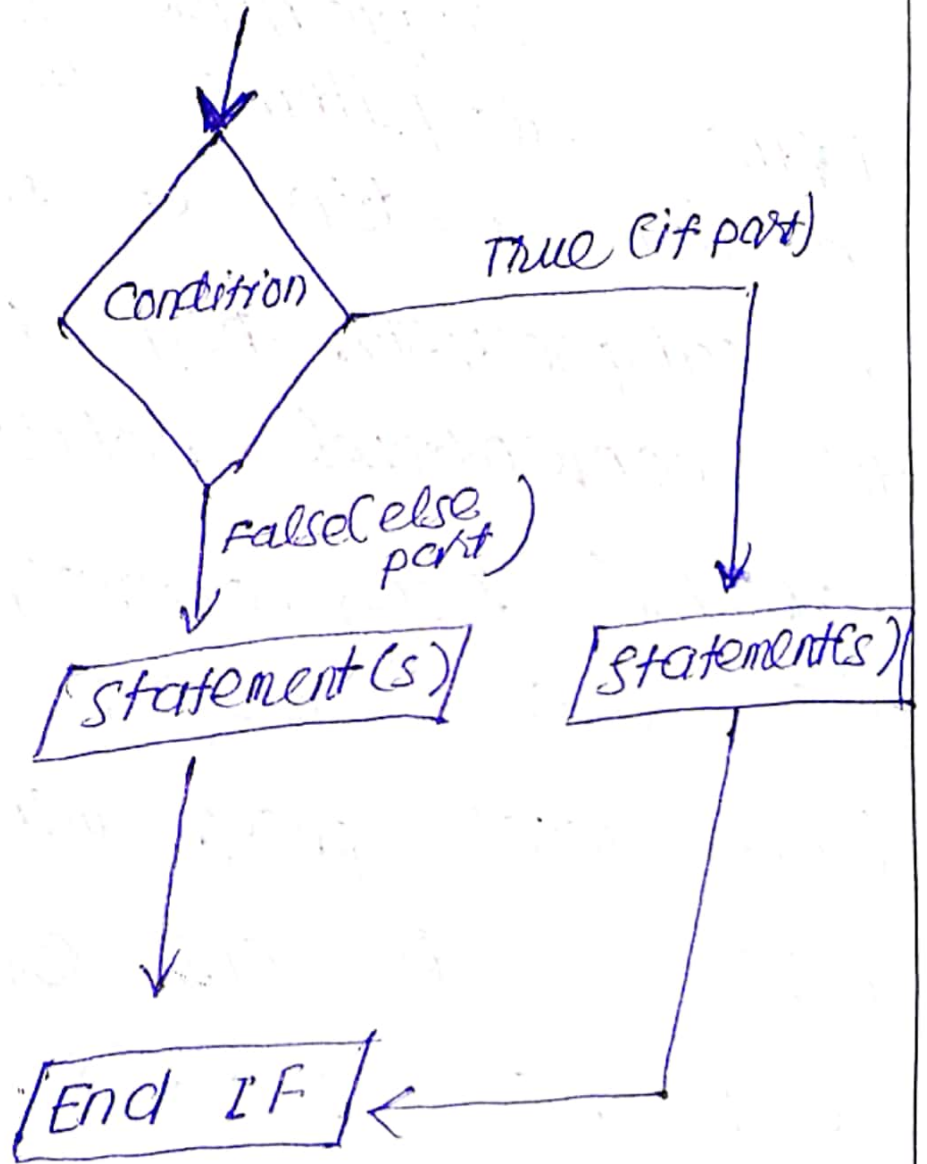


(a) If-statement :-

(b)



If-else statement :-



Q5
(a) Sequential statements:-

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

(b) write a program to perform the arithmetic operation by using all arithmetic operations.

```
#include <iostream.h>
```

```
#include <conio.h>
```

```
main ( ),
```

```
{
```

```
clrscr ( );
```

```
int addition, subtraction, multiplication, division;
```

```
float remainder;
```

```
addition = 5 + 2;
```

```
subtraction = 5 - 2;
```

```
division = 5 / 2;
```

```
remainder = 5 % 2;
```

```
multiply = 5 * 2;
```

```
cout << "addition of 5 & 2 = " << addition  
<< endl;
```

Cool LL subtraction of B & 2 = "LL subtraction
LL end 1/2

Cool LL Division of B & 2 = "LL division
LL end 1/2

Cool LL multiply of B & 2 = "LL multiplication
LL end 1/2

Cool LL remainder of B & 2 = "LL remainder

2/

