

Day: MTWTFSS

Date: \_\_\_/\_\_\_/\_\_\_

Name


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ID

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Subject

Introduction  
Computer Programming

Checked By:..... Parents:..... Excellent  Good  

Q No 1

"a" Write a program for your's  
Grading system using "if-else  
statement"

ans

Marks	Grade
88 — 100	A
81 — 87	B+
74 — 80	B
68 — 73	C+
60 — 67	C
00 — 59	F

"Program"

```
#include <iostream>
```

```
using namespace std;
```

```
int main ()
```

```
{ int marks;
```

```
cout << " -- Program To find Grade  
-- " << endl;
```

```
cout << " \nEnter Marks: ";
```

```
cin >> marks;
```

```
if (marks >= 88 && marks <= 100)  
    cout << " your Grade is A. ";
```

```
else if (marks >= 81 && marks < 88)  
    cout << " your Grade is B+ ";
```

```
else if (marks >= 74 && marks < 81)  
    cout << " your Grade is B. ";
```

```
else if (marks >= 68 && marks < 74)  
    cout << " your Grade is C+ ";
```

```
else if (marks >= 60 && marks < 68)  
    cout << " your Grade is C. ";
```

```
else if (marks >= 0 && marks < 60)  
    cout << " your Grade is F. ";
```

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```
else cout << "Invalid marks.";
return 0; }
```

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"b" Differentiate between "if statement"  
and "if-else statement"

ans

If Statement:-

\* The if statement is a decision-making structure that consists of an expression followed by one or more statements.

\* In if the statements inside the if block execute if the expression is ~~false~~ true. If the expression is false the next statement after the if block executes.

If-else statement:-

\* 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 else the if block

Executes if the expression is true and if the expression is false the control is passed to the else block.

Ques

"a" Write a program to display a menu to perform various function using "switch statement".

ansMENU

B = Burger = RS 200

F = French Fries = RS. 50

P = Pizza = RS. 500

S = Sandwiches = RS. 150

Program:-

```
#include <stdio.h>
```

```
int main()
```

```
{
```

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```
printf("B=BURGER\nF=FRENCH  
FRY\nP=PIZZA\nS=SAND  
WICHES\n");
```

```
char ss;
```

```
int n, x;
```

```
scanf("%c", &ss);
```

```
switch (ss)
```

```
{
```

```
case 'B':
```

```
scanf("%d", &n);
```

```
x = n * 200;
```

```
printf("Burger = RS %d", x);
```

```
case 'F':
```

```
scanf("%d", &n);
```

```
x = n * 50;
```

```
printf("Burger = RS %d", x);
```



Case 'P':

```
scanf("%d", &n);
```

```
x = n * 500;
```

```
printf("Budget = R %d", x);
```

Case 'S':

```
scanf("%d", &n);
```

```
x = n * 150;
```

```
printf("Budget = RS %d", x);
```

```
}
```

```
}
```

"b" Differentiate between "Nested If-else statement" and "switch statement".

ans

Nested If-else statement:-

\* It becomes complicated for Multiple selections.

\* it uses an independent expression for each case.

\* The test condition can be given in a special range of value. if the given condition matches then the statements under it will be executed.

Switch statement:-

\* It is easy to understand for multiple selections.

\* It uses a single expression for all cases but each case must have a constant value of integer type or character type.

\* Only a single expression is given in the switch statement which returns a single value. The test condition cannot be given in a specified range. It is drawback.

Q1A3

"a" Differentiate between "Relational operator" and "Relational Expression"

any Relational operator:-

\* Relational operators are signs used to perform certain tasks e.g. addition.

\* There are two kinds of operators: unary operators require a single operand to perform an operation.

Binary operators require more than one operand to perform an operation.


Relational Expression:-

\* Relational Expression forms when we combine operands (variables and constants) and C++ operators.

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\* combination of operands  
and operators.

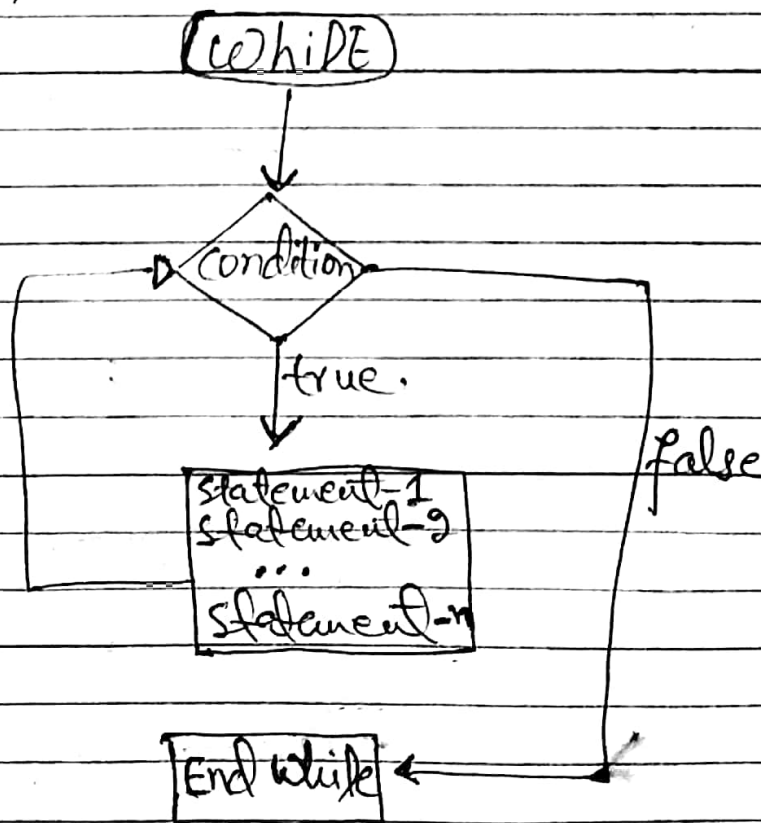
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"b" Draw the flow chart for "while loop" and "nested if statement".

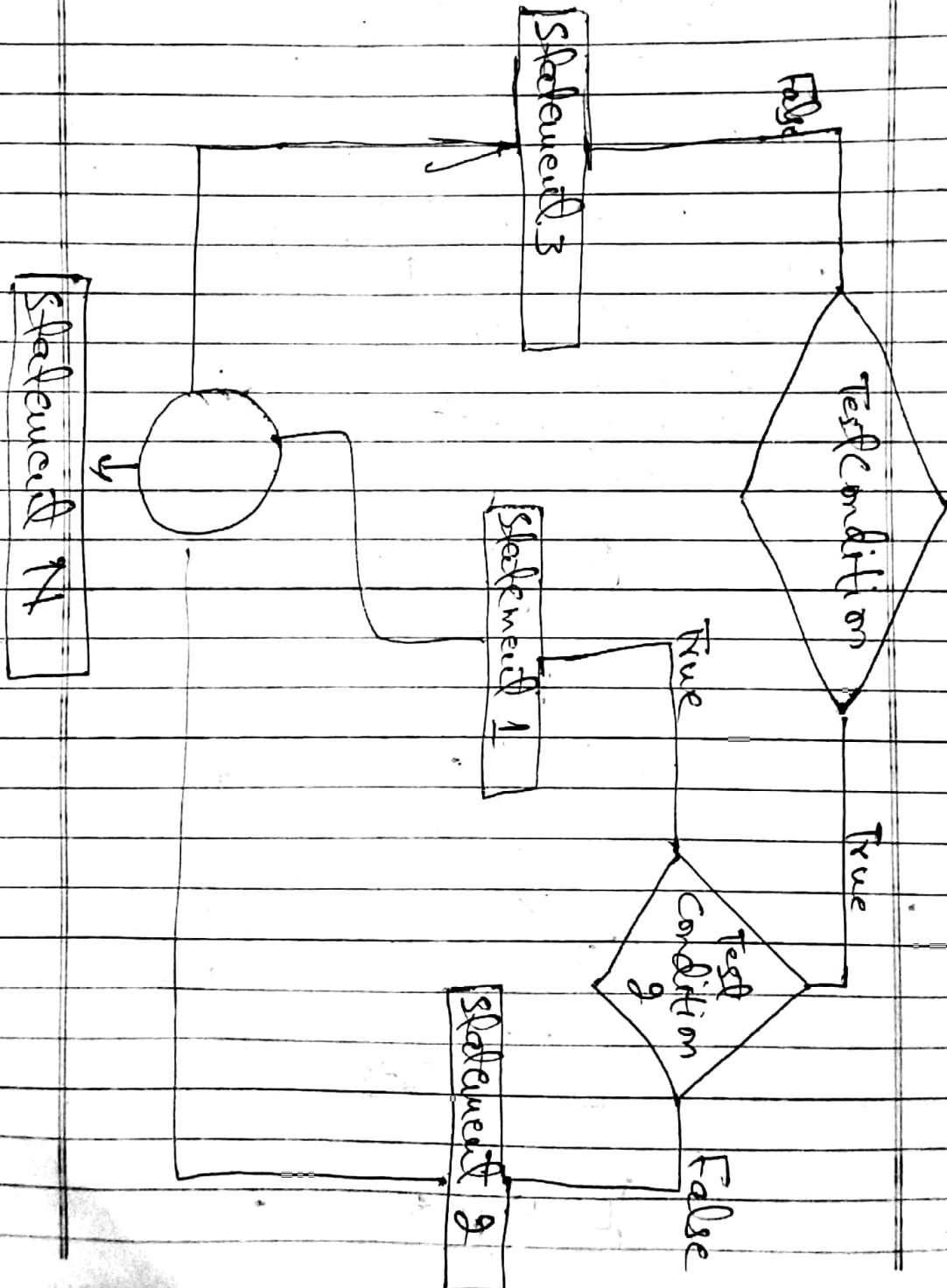
ans "while loop flow chart" :-

there for.

- 1) While (condition)
- 2) # statement 1
- 3) # statement 2
- 4) # ...
- 5) # statement n
- 6) end



# Nested If statement flow chart



Q No 4

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

ans

$$\text{Volume} = 3.14 \times \text{Radius}^2 \times \text{Height}$$

Program:-

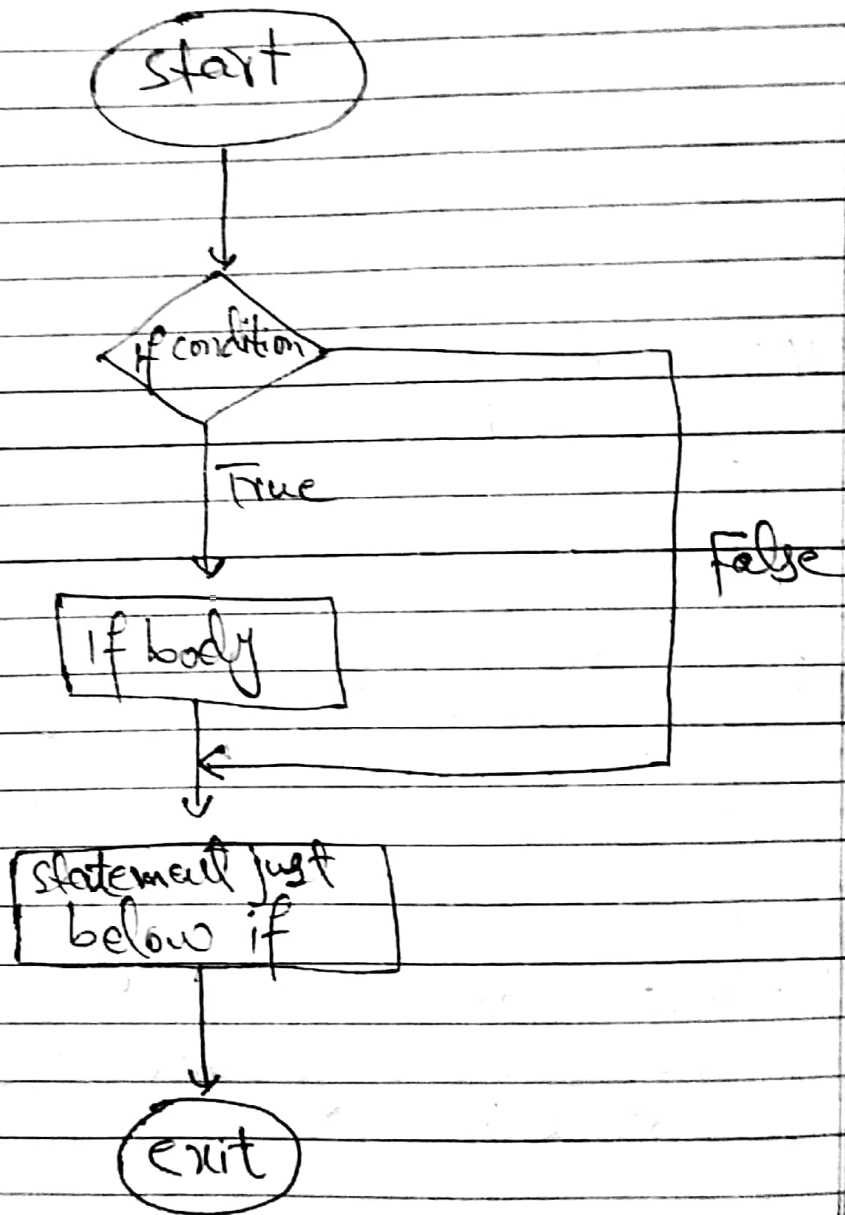
```
#include <iostream>
using namespace std;
int main ()
{
    float radius, height, volume;
    cout << "Enter Radius of cylinder:";
    cin >> radius;
    cout << "Enter Height of cylinder:";
    cin >> height;

    Volume = 3.14 * radius * radius * height;
    cout << "volume of cylinder is: " << volume;
    return 0;
}
```

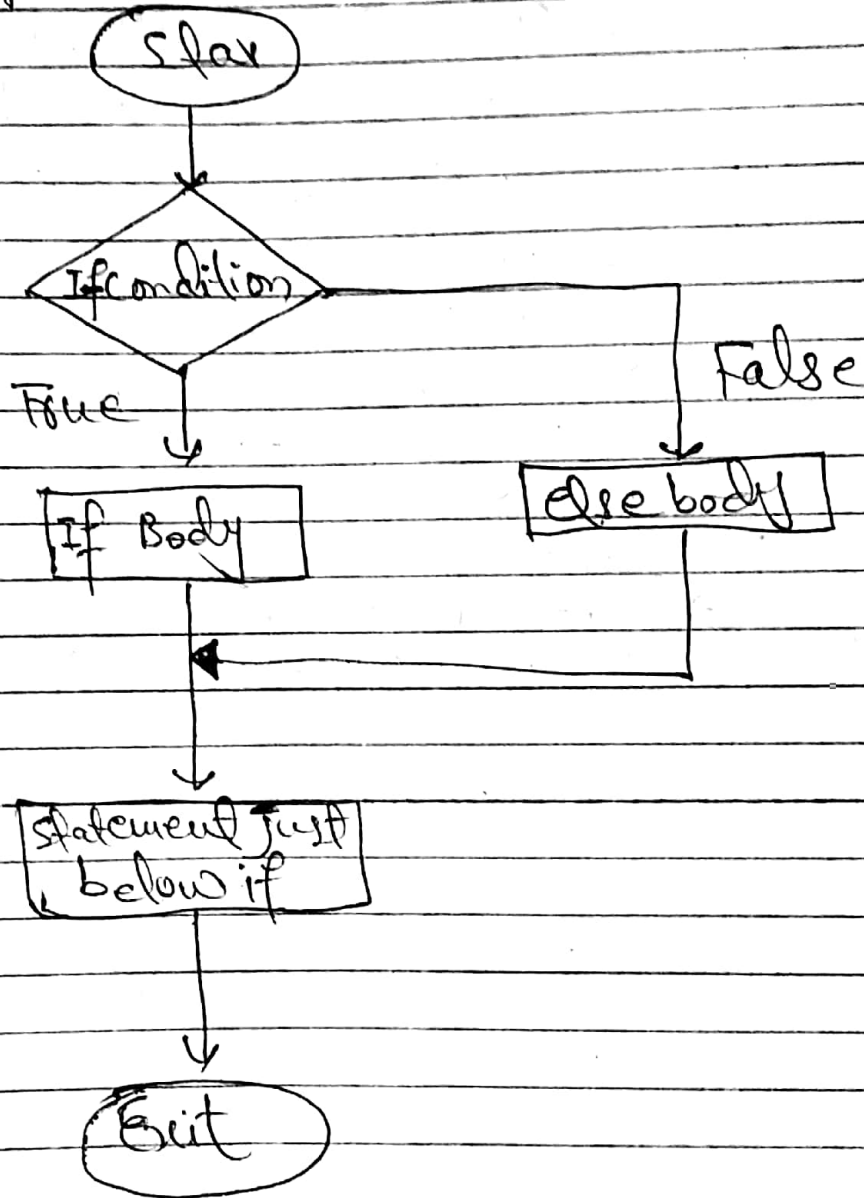


"b" Draw the flow chart for "if" statement and "if-else" statement.

ans If Statement Flow Chart



# If-else statement flowchart



Ques What is sequential statement

ans In sequential statement, the statements are executed in the same order in which they are specified in the program. The control flow from one statement to another in a logical sequence. We can write as many statements as we want but all statements are executed exactly once. It means that no statement is skipped and no statement is repeated.

"b" Write a program which performs the arithmetic operation by using all arithmetic operators

ans

Program:-

```
#include <iostream>
using namespace std;
main () {
    int a = 21;
    int b = 10;
    int c;

    c = a + b;

    cout << "line 1 - value of c is:" <<< c
    << endl;
    c = a - b;

    cout << "line 2 - value of c is:" <<< c
    << endl;

    c = a * b;
    cout << "line 3 - value of c is:" << c
    << endl;
```

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```
c = a / b;
```

```
cout << "line 4- value of c is:" <<  
c << endl;
```

```
c = a % b;
```

```
cout << "line 5- value of c is:" <<  
c << endl;
```

```
return 0;
```

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