Name # Ikram ullah

ID # 7976

Subject # ICP

Dept # BE Civil Engg

Q#1 (a)

Q ⇒ write a program for yours Grading System using "if else Statement"?

Ans ⇒

```
#Include<iostream.h>
using namespace std;
Int main();
Cout<<"program to find Grades"<<endl;
Cout<<"Enter Marks:;
Cin>>marks;
if (marks>=87 && marks<=100) Cout<<"Your grade is A";
else if(marks>=87 && marks<98) Cout<<"Your grade is A";
else if(marks>=82 && marks<86) Cout<<"Your grade is B";
else if(marks>=76 && marks<81) Cout<<"Your grade is B";
else if(marks>=67 && marks<75) Cout<<"Your grade is C+";
else if(marks>=60 && marks<66) Cout<<"Your grade is C";
else Cout<<"Invalid marks"; return 0;
```

Q#01 (b)

Q ⇒ Differentiate b/w "If statement and "If-else statement"?

If statement :- Sometime we want to selectively execute block of code-

⇒ The C++ syntax of the if statement is;

```
if (logical expression)
  {
  "Block of code to excute if expression is true
  }
```

⇒ when expression is True, the block of code is executed-

⇒ when expression is false, the block of code is skipped-

⇒ The block of code should be Indented 3-4 spaces to add program readability-

⇒ If the block of code is only one line long the { } brackets can be omitted.

If - ELSE Statement :-

⇒ Sometimes we need to handle two alternatives in our code -

⇒ In this statement, one condition and two blocks are given,

⇒ Either one of two of statements is executed after evaluating of a condition The if-else statement The given relational condition, Of The condition is true, Then The first block of statement is executed & Of The condition is false, The first block of statement is Ignored and the statement, is used for making second block following The else is executed.

⇒ It is also known as "Double blocked conditional Statement" -

Q#2 (a)

write a program to display a menu to perform various function using a Switch Statement" -

```
#Include <Iostream.h>
# Include <conio.h>
   main()
   {
clrscr();
  Int choice
cout << " program To Input data "<<endl;-
Cout ; program to Input
Defalt;
Cout << " malid Input ;
     getch();
   }
```

Q#02 (b)

Differentiate b/w "Nested If-else Statement" and "Switch Statement".

NESTED IF ELSE STATEMENT

(i) it becomes complicated for multiple selections.

(ii) it uses an Independent expression for each case.

(iii) 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

(i) it is easy to understand for multiple selections.

(ii) it uses a single expression for all cases, but 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 not be given in specified range.

⇒ it is drawback.

Q#3 (a)

Relational Expression

⇒ Relational operator evaluate to the integer value 1 (true or false).

⇒ All of these operations are called binary operations because they take two expressions as operates.

⇒ Relational operator (==) is used to compare two value whether they are equal or not.

⇒ if both value are equal output is displayed as "value are equal".

Relational operator

⇒ A relational operator compares two values.

⇒ Value can be any one in C++ data type.

⇒ The comparsion involves such relationship as equal to less than and greater than.

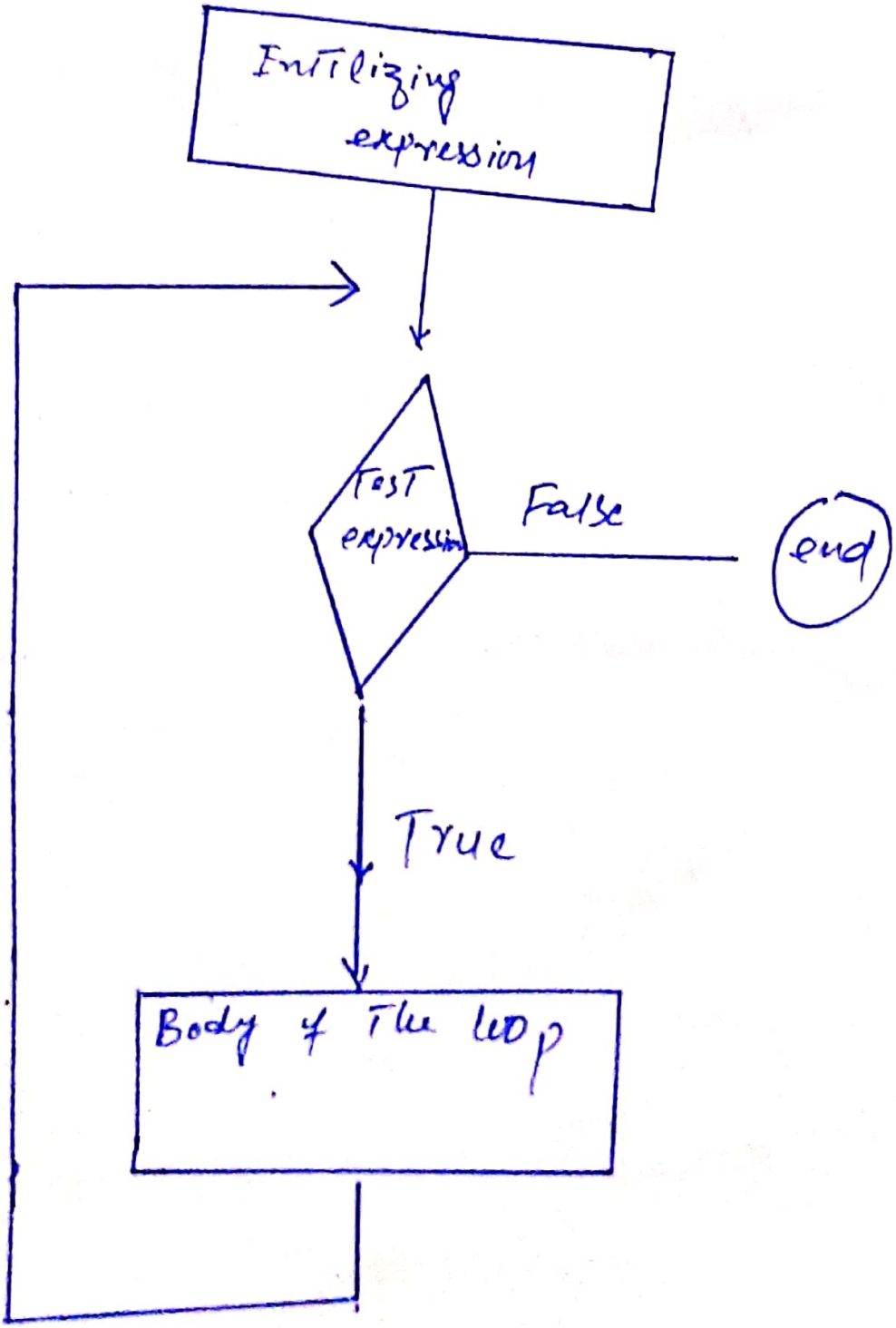
⇒ The result of the comparasion is either True or false.

< less than, > → greater than

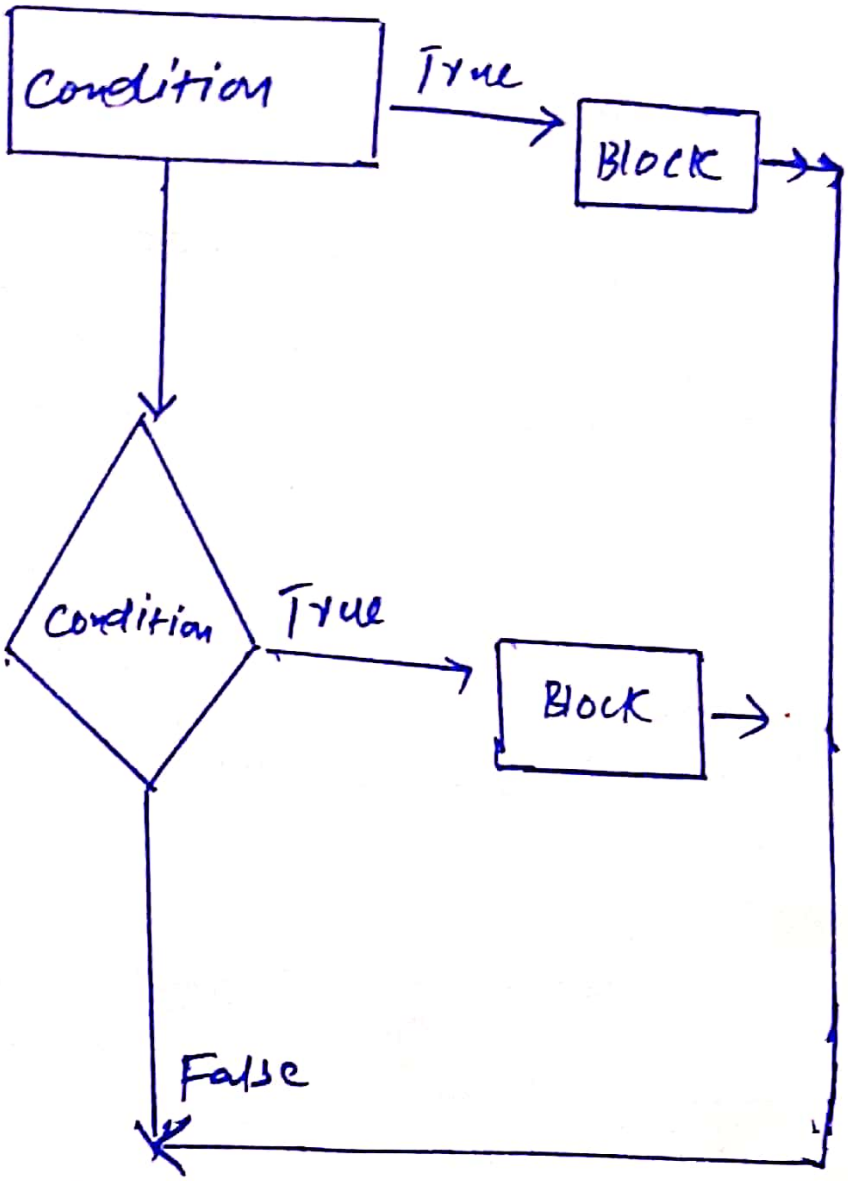
<= less or equal than, => greater or equal to

Q#3(b)

Flow chart of While loop



Flow Chart of NESTED IF ELSE



Q#4(a)

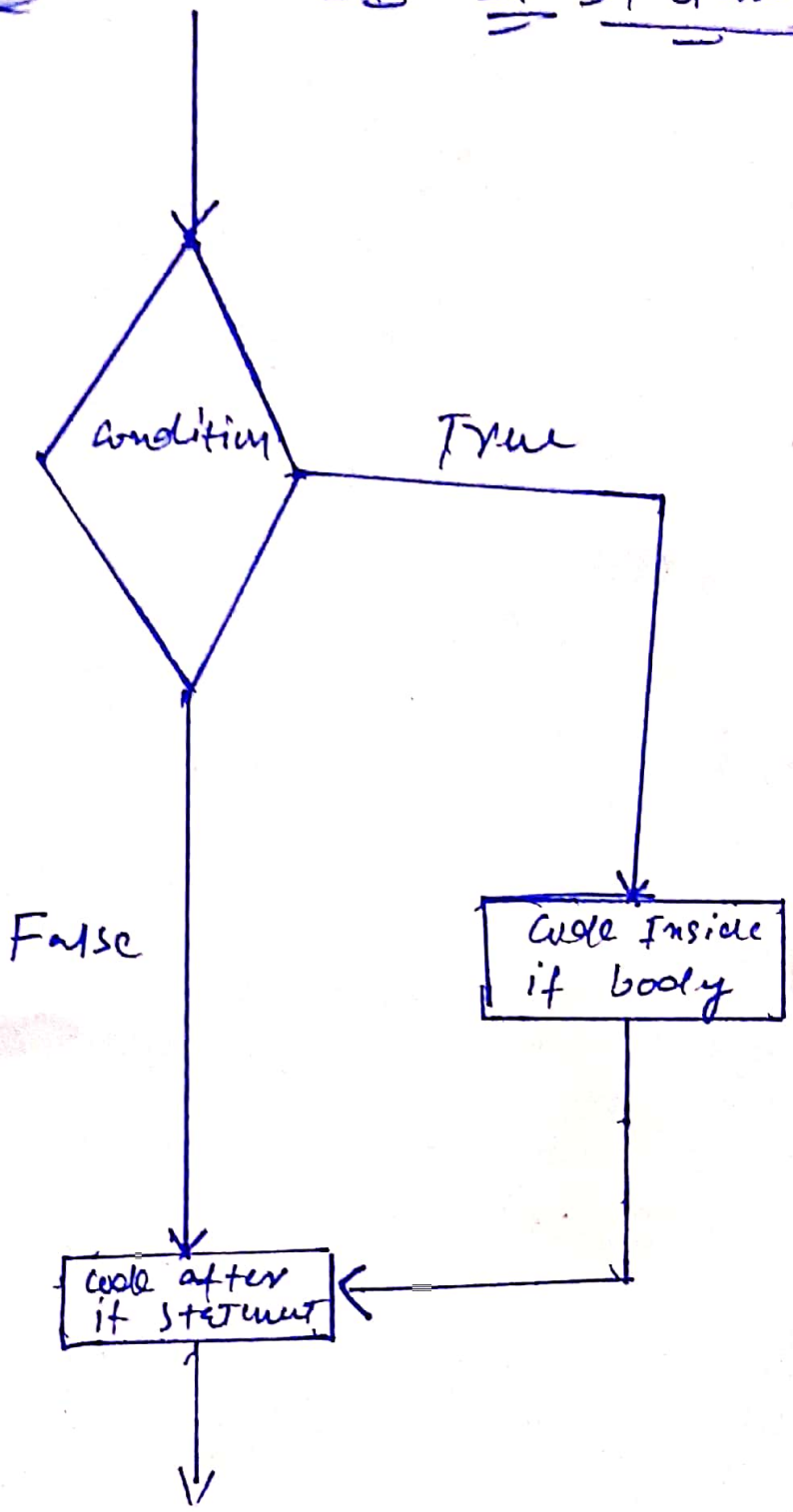
Write a program in C++ to find the volume of a cylinder?

Ans⇒

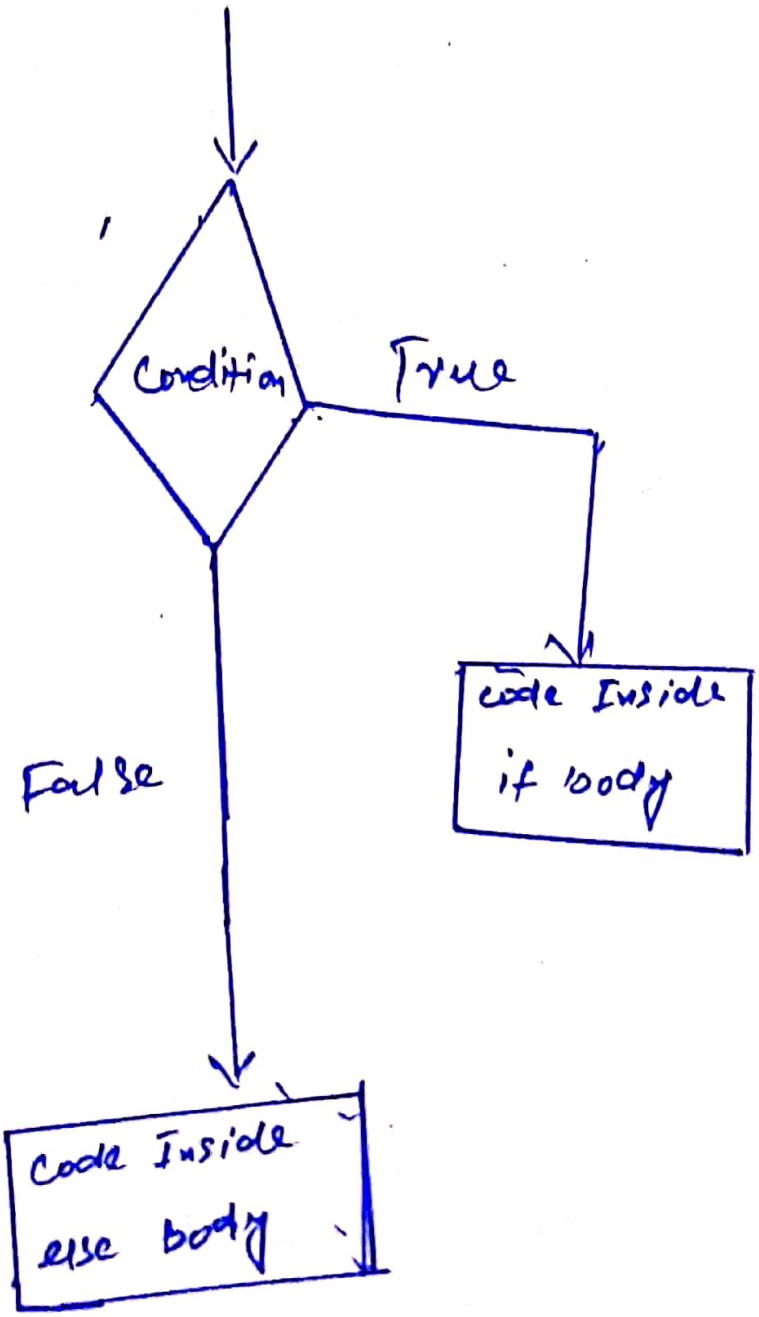
```
#Include <Iostream.h>
using namespace Std;

Int main()
{
Int rad1, hgt;
float volcy;
cout<<"\n\n calculate the volume of a cylinder:\n";
cout<<"-------------------------\n";
Cout<<"Input the radius of cylinder:";
Cin>>rad1;
Cout<<"Input the height of the cylinder:";
Cin>>hgt;
volcy = (3.14*rad1*rad1*hgt);
Cout<<"The volume of cylinder is "<<volcy<<endl;
Cout<<endl;
return 0;
}
```

Q#4(b) Flow Chart of IF Statement



Flow Chart of If else Statement



Q#5(9)

Sequential Statement

⇒ An algorithms for the execution with in a process or a subprogramme, they belong to the conventional notation of sequential flow control.

⇒ conditionals and Iterations such as high level programming languages such as pascal, C or Ada. They excute In order To which they appear In the process -

```
# Include <Stdio.h>
# Include <stdlib.h>
# Include <conio.h>
# Include <math.h>
void main ()
  {
float farenhite celsius;
printf ("enter degree in far\n");
scanf ("%f", & farenhite);
Celsius (float) 5/9 x (farenhite-32);
```

```
printf("result = %.4f\n", celsius);
getch();
}
```

Process :- A process of a sequence of statement that are executed in the specific order - The process determines of sequential domain of the architecture in which the declaration appears process are used for behavial discription -

Notes

In a process A is not allowed to declare statements -

Q#5 (b)

```
#Include <stdio.h>
# Include <math.h>

Int main()
    {
double First-number, second-number;
double addition, subtraction, multiplication, division,
        modulus;
PrintF("Enter the first Numbers to perform Arthimetic
        operations:");
ScanF("%.if, & second-number);
addition = first-number + second_number;
subtraction = First-number - second number;
multiplication = First number x Second number;
Division = First number / second number;
modulus = Fmod (FIRST number, second number);
PrintF("\n\n sum of Two numbers are = \t\t %.1f\n",
        addition);
PrintF("Differences of Two numbers are =
    \t\t %.1f\n", subtraction);
```

```
printf("multiplication of two numbers are = \t%d\n",
        multiplication);
printf("Quotients of two numbers are = \t\t%.4f\n",
        division);
printf("Modulus of two numbers are - \t\t%d\n",
        modulus);
return 0;
```