

NAME

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program

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Subject

programming fundamental



Date.

No.

①

Q1@ What is the purpose of IF statement? Discuss its two different forms with examples?

Answer: The IF statement is used to check a condition and if the condition is true we run a block of statement else we process another block of statements.

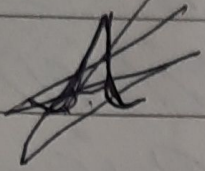
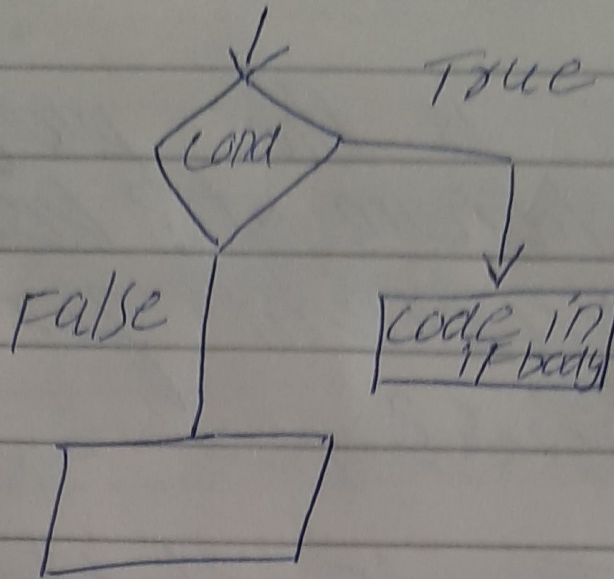
∴ different of forms of if is

(i) IF else :

The IF else execute a block of code if a specified condition is False another block of code can be executed.

example:





on this program user is asked to enter the age and based on the input the if else statement checks whether the entered age is greater than or equal to 18.



(3)  
~~(ii) IF else IF~~

Date.

No.

(ii) ~~arithmetic~~

(ii) nested IF else:

When an IF statement is

present inside the body of

another "IF" or "else" then

this is called nested if

else.



Date.

No.

(4)

Q) Write a C++ program to read two numbers from keyboard and then find the largest number of them.

Sol

```
#include <conio.h>
#include <iostream>
class Largest
{
    int d;
public:
    void getdata(void) =
    void display-Large (Largest. Largest);
};
void Largest::getdata(void)
{
    cout << "Enter value: - ";
    cin >> d;
}
void Largest::display-Large (Largest o1,
                              Largest o2)
```



5

Date.

No.

```
if (o1.d > o2.d)
```

```
cout << " " " object 1 contain largest  
value " << o1.d;
```

```
else if (o2.d > o1.d)
```

```
cout << " " " object 2 contain  
largest value " << o2.d;
```

```
else
```

```
cout << " " " Both are equal " ;
```

```
}
```

```
void main()
```

```
{
```

```
largest o1.o2.o3
```

```
o1.getdata();
```

```
o2.getdata();
```

```
o3.display-large(o1.o2);
```

```
getch();
```

```
}
```



⑥

Date.

No.

Q2: @ What are the logical operators?  
and explain them?

Ans:

A logical operator is a symbol or word used to connect two or more expressions 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, NOT.

Q2b: write a C++ program to get

Temperature in Fahrenheit  $F$   
and then find the atmosphere  
according to below rules

(1)

2)

3)

4)



Q2b

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Date.

No.

Q501

```
#include <stdio.h>
void main()
{
    int temp;
    printf("input days temperature:");
    scanf("%d", &temp);
    if (temp < 0)
        printf("Freezing weather.\n");
    else if (temp < 10)
        printf("Very cold weather.\n");
    else if (temp < 30)
        printf("Normal in temp.\n");
    else if (temp < 40)
        printf("its hot.\n");
    else
        printf("its very hot.\n");
}
```

(ii) if temp F is between 35 and 40 degree  
Fahrenheit then display -- Tolerable.



Date.

No.

SOL:

#include &lt;stdio.h&gt;

void main ()

{

int temp

printf ("input temperture: ");

scanf ("%d", &amp;temp);

if (temp &gt;= 35 &amp;&amp; temp &lt;= 40)

printf ("tolerable weather\n");

else if (temp &lt; 0)

}

(iii) #include &lt;stdio.h&gt;

void main ()

{

int temp

printf ("input temp: ");

scanf ("%d", &amp;temp);

if (temp &gt;= 30 &amp;&amp; temp &lt;= 35)

printf ("wether warm");

}



9

Date.

No.

```
④ #include <stdio.h>
void main()
{
    int temp;
    printf("input weather temp:");
    scanf("%d", &temp);
    if (temp < 30)
        printf("waxam weather;\n");
    else if (temp > 0)
    }
}
```

Q3: Q What does looping mean? Explain different loops in C++?

Ans: A loop statement ~~etc~~ allows us to execute a statement or group of statement multiple times and following is the general form of a loop statement in most of the programming languages. C++ programming language provides the following types of loop to handle looping requirements.



(10)

Date.

No.

- 1) While Loop: repeats a state or group of  
2) For Loop: Executes a sequence multiple times  
3) do while Loop: tests condition at the end of loop  
4) nested Loops: you can use one or more  
loop inside another while  
For or do while loop.

Q3b:

```
#include <iostream>
using namespace std
int main()
{
    int number, remainder;
    cout << "Enter the number: ";
    cin >> number;
    remainder = number % 2
    IF (remainder == 0)
        cout << number << " is an even
    else
        cout << number << " is an odd integer" << endl;
    return 0;
}
```



(11)

Date.

No.

Q4: (a) What is the purpose of using break and continue statements?

Ans: The one-token statements continue and break may be used within loops to alter control flow: continue causes the next iteration of the loop to run immediately whereas break terminates the loop and causes execution to resume after the loop.

Q4b

Sol

```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int i, sum = 0;
```

```
    cout << "\n\n Find the first 10 natural numbers: \n";
```

```
    cout << " . . . . . \n";
```



(2)

Date.

No.

cout << "The natural numbers are: 1n";

for (i = 1; i <= 10; i++)

{

cout << i << " ";

sum = sum + i;

}

cout << "1n The sum of first natural numbers: " << sum << endl;

}

Q5: Explain the following with proper examples:

- (a) C++ character set
- (b) constants
- (c) variables
- (d) keywords
- (e) relational operators:

(a) C++ character set:

In C++ a character set is a set of all



13

Date.

No.

• valid characters that can be used in a C++ program.

e.g.:

- 1) letters: A-Z, a-z, Digits - 0-9

Special symbols - space,  $\backslash$ ,  $\_$ ,  $\{$ ,  $\}$ ,  $=$ ,  $\div$  etc

etc

### ② Constants

refer to Fixed values that the program may not alter and they are called literals.

e.g. 2, 5, 0, -3, -7, 27, 7/9 etc.

### ③ Variables

is a value that can change, depending on conditions or on information passed to the program

e.g.:

A symbol for value we don't know yet it is actually a letter like x, y, z Example in  $x + 2 = 6$  is the variable.



### (d) Keywords

are predefined, reserved words used in programming that have special meanings to the compiler.

e.g.: IF :: This keyword is used to check the condition if the condition is true it executes the statement if else keywords etc.

~~(e)~~

### (e) Relational operators

is used to check the relationship between two operands. For example Here  $>$  is a relational operator it check if  $a$  is greater than  $b$  or not

e.g.  $>$   $<$   $=$  etc.