

SHORT QUESTIONS

Q.1 What is a Control Structures?

Ans. These are the statements used to control the flow execution in a program or function. These instructions enable us to group individual instructions into a single logical unit with one entry point and one exit point. All programs use control structures to implement the program logic. There are three types of control structures:

Sequence

Selection

Repetition/ iteration/ loops:

Q.2 What is a Sequence?

Ans. The instructions are executed in which they are written in the program.

Example: compound statement:

```
{  
  Statements  
    St - 1  
    St - 2  
    ----  
    ----  
}
```

Q.3 What is a Selection?

Ans. A structure that selects which statement or block of statements is to execute.

Examples: if – else, switch

Q.4 What is a Repetition/ iteration/ loops?

Ans. These statements are used to repeat set of statements.

Examples: for-loop, while loop, do-while loop

Q.5 What is if statement?

Ans. **if** is a keyword in C language. It is used to execute or ignore a set of statements after testing a condition. A condition is a relational or logical expression and it produces either true (means 1) or false (means 0) result. If the condition is true then the block of statement is executed. If the condition is false then the block of statement is ignored and the control is transferred to the next statement after if statement.

Q.6 What is Syntax of if-statement?

Ans. **if (relational or logical condition)**
 {
 Block of statements
 }
 next statement after if

Q.7 What is if-else statement:

Ans. It is similar to if statement. It is also used to execute or ignore a set of statements after testing a condition. In if-else statement one condition and two blocks of statements are given. A condition is a relational or logical expression and it produces either true or false result. If the condition is true then the first block of statement is executed. And after executing the first block, the control is transferred to next statement after if-else structure. If the condition is false then the first block of statement is ignored and the 2nd block of statement is executed.

Q.8 What is Syntax of if-else statement?

Ans. **if (relational or logical condition)**
 {
 first Block of statements
 }
 else
 {
 2nd block of statements
 }
 Next statements after if-else

Q.9 What is a Conditional Operator or Ternary Operator?

Ans. It is use as an alternative to simple if-else statement. It is also called ternary operator. It requires three expressions. First expression is relational or logical expression (condition) and it produces either true (means 1) or false (means 0) result. If the condition is true then 2nd expression following question mark (after ?) is executed. If the condition is false then the 2nd expression is ignored and 3rd expression after colon (:) is executed.

Syntax: Conditional Statement ? true case statement : false case statement ;

Q.10 What is a Switch Statement?

Ans. Switch is used to select one option from a set of options. It is also a control structure. It compares the value of an expression against a list of cases. The case labels and the value of expression must be an integer or a character. It must not be a float or double value. If the value of expression in switch is float or double type then the compiler will generate the following error message. Switch selection expression must be of integral or character.

Q.11 What is a Syntax of switch

Ans. **switch(expression)**
 {
 case val - 1:
 statements – 1;
 break;
 case val - 2:
 statements – 2;
 break;
 case val - 3:
 statements – 3;
 break;

 case val - n:
 statements – n;
 break;
 default:
 statements ;
 }

Q.12 What is the function of break statement?

Ans. It must be included at the end of each case statement in switch. It is used to exit from the body of switch. If all break statements are omitted then the code of other cases after the matching case will be executed sequentially.

Q.13 What is the function of default keyword?

Ans. Its use is optional in switch. If none of the case label is matched. Then the statements under default are executed. The position of default is not fixed. It may be placed before the first case or after the last case.

Q.14 What is the Nested-if statement?

Ans. if statement within another if statement is called nested if statement. It is used for multi-way decision-making. Nesting can be done up to any level. The else statement is optional. It may be used with outer or inner if statement. Increase in nesting also increase the complexity of program.

Q.15 What is Syntax of Nested if?

Ans.

```
if(condition-1)
{
    if(condition-2)
    {
        statements of inner if
    }
}
```

Q.16 What is if-else-if statement?

Ans. If there are more than three alternatives, then we use if-else-if instead of nested if statement. It is used when multiple options are available. Nesting can be done up to any level. The conditions in if are evaluated in a sequence. All the conditions are evaluated until a true condition is reached. When a true condition is found, then the statements under true conditions are executed and the remaining conditions are ignored. If all conditions are false, then the last statement – k after else is executed.

Q.17 What is a Syntax of if-else-if?

Ans.

```
if(condition-1)
    statement – 1
else if(condition-2)
    statement – 2
else if(condition-3)
    statement – 3
-----
-----
else if(condition-n)
```

statement – n

else

statement – k

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