Fundamentals

Q. What do you mean by programming language? ****

Ans. A programming language is a formal computer language designed to communicate instructions to a machine, particularly a computer. Programming language can be used to create programs to control the behavior of a machine to or to express algorithms.

Q. What is C program? ✓✗

Ans: C is a high-level and general purpose programming language that is ideal for developing firmware or portable applications. C was developed at Bell Labs by Dennis Ritchie for the Unix Operating System (OS) in the early 1970s.

Q. What is function? ✓✗

Ans. A function is a group of statements that together perform a task. Every C program has at least one function, which is main(), and all the most trivial programs can define additional functions. A p code can be divided into separate functions.
program can be

Q. What is statement? ✗

Ans: A statement specifies an action to be performed by the program. In other words, statements are the parts of your program that actually perform operations. All C statements end with a semi colon. For example,

return 0;
}

Q) what is ret-type? x

Ans: ret-type specifies the type of data returned by the function.

C is case-sensitive. Explain it? * x**

Ans: C is case-sensitive which means that C recognizes the difference between upper and lowercase letters. Such as MyFunc and my-func are entirely different names.

Similarly, Nam and nam are two different variable. For example,

```c
#include <stdio.h>
int main()
{
    int AB;
    B= 10;
    printf(" %d ",b);
    return 0;
}
```

Q. What is variable?

Ans: A variable is a named memory location that can hold various values. all variables must be declared before their using.

TO declare a variable, the general form:

type var-name;

where type is a C data type and var-name is the name of the variable. For example

int counter;

Q. What do you mean by local variable and global variable?

Ans: Variables declared inside a function are called local variable. Local variable many be accessed by only that function in which it is declared. For example.

Q(3) What is user define function in C?

Ans: A function is a block of code that performs a specific task. C allows you to define functions according to your need. These functions are known as user-defined functions. For example. Suppose you need to create a circle and color it depending upon the radius and color.

```
#include <stdio.h>
int radius_color (void);
int main()
{
```

a = radius-color();

```
int radius_color()
{
```

(9) What is header file?

Ans: A header file is a file with extension .h which contains C function declarations and macro definitions to be shared between several source file. There are two types of header files: the files that the programmer writes and the files that comes with the compiler.

Variable is the difference between global and local

Ans: The difference between global variable and local variable are given below :-

Global Variable	Local Variable
(i) Variable's declared outside all functions are called global variables.	(i) Variables declared inside a function are called local variable.
(ii) Global variables exist the entire time a program is executing.	(ii) Local variables are destroyed when the function is exited.
(iii) Global variables are used by all function in a program.	(iii) Local variables are used by only that function in which they are declared.
(iv) The global variables in one function have relationship to the global variable in another function	(iv) The local variables in one function have no relationship to the local variables in another function.
(v) Global variables can maintain their values between function calls.	(v) local variable, do not maintain their values between function calls.

(25) what is do-while loop i'nc ? ✗

Ans: A do-while loop is almost the same as a while loop. except that the loop boody is guaranteed to execute at least once. The code must always be executed first and then the test condition is evaluated. If it is true, the code executes the body of the loop again.

```
do {
    - - - - - ;
    - - - - - ;
} while ( condition );
```

(26) Differ between while and do-while loop ? // ✗

Ans: I used to think both are completly same. But some difference have between them both. Given below some difference;

while	do-while
1. A while loop will check the condition first before executing the content.	1. The do-while loop executes the content of the loop once before checking the condition of the while.

while loop	do-while loop
3. While is an entry contr-ol loop.	3. do-while is an exit control loop.
4. There is no semicolon at the end of while statement.	4. There is se- micolon at the end of while state- ment.
5. while(a<10) { printf("%d",a); a++; }	5. do{ printf("%d",a); a++; }while(a<10);

Q2 What is the nested loop in c?

Ans: A loop inside another loop is called a nested loop. Consider a nested loop where 'a' outer loop runs m times and consists of another loop inside it. The inner loop runs n times. The total number of times the program executing is m×n.

Whenever it is encountered it directly jumps to the beginning of the loop for next iteration, skipping the execution of statements inside loop's body for the current iteration.

```
for(i=0; i<10; i++)
{
    continue;
    printf("%d", i);  // never executed
}
```

OR

Q. What is the difference between break and continue statement?

Ans: Difference between break and continue:

break	continue
1. When break statement is encountered, it terminates the block and gets the control out of the switch or loop.	1. When a continue statement is encountered, it gets it's control to the next iteration of the loop.
2. The break statement can be used in both	2. The continue statement can appear only in

Differ between if-else and switch.

Basis	if-else	switch
Basic	which statement will be executed depend upon the output of the expression inside if statement.	which statement will be executed is decided by user.
Expression	if-else statement uses multiple statement for multiple choices.	switch statement uses single expression for multiple choices.
Testing	if-else statement test for equality as well as for logical expression.	switch statement test only for equality.
Evaluation	if statement evaluates integer, character, pointer or floating point type or boolean type.	switch statement evaluates only character or integer value.
Sequence of Execution	Either if statement will be executed or else statement will be executed.	switch statement execute one case after another till a break statement is appeared or the end of switch statement is reached.
Default Execution	If the condition inside if statement is false, else statement will by default be executed.	If the condition inside switch statement does not match with any of cases, then that instance the default statement is executed.	If there is no default statement, then no default statement is created.

int.
long int
short int
unsigned short int
$\Big\}$ ⟶ %d

int ⟶ %d

short int ⟶ %hd

long int ⟶ %ld

unsigned int ⟶ %u

unsigned long int ⟶ %lu

double ⟶ %alf

long double ⟶ %Lf

Q. What is constant in c?

Ans: Constant refer to fixed values that the program may not alter during its execution. Constants can be of any of the basic data types like an integer constant, a floating constant, a character constant, or a string constant.

There are two simple ways in c to define constant

(5) Using #define preprocessor. Such as,

#define length 10

□ Using const keyword such as

const int length = 10;

---

(12) What is a type cast? Give an example.

Ans: A type cast temporarily changes the type of a value. For example,

here, the type cast causes the value of f to be converted to an int.

```
k = 100.2;
printf("%d", (int) k );
```

here, the type cast causes the value of f to be converted to an int.

---

(13) What is an array?

Ans: A array is a collection of data items, all of the same type, accessed using a common name.

A one-dimensional array is like a list; A two dimensional array is like a table. The general form of one dimensional array.

type var_name [size];

where type is a valid C data type, var_name is the name of the array and size specifies is the array.

Q1) What is the string in C?

Ans: A string in C is defined as a null-terminated character array.

Q) What is a library function in C?

Ans: Library functions in C language are inbuilt functions which are grouped together and placed in a common place called library.

Q) What is a library file?

Ans: In programming, a library is a collection of precompiled routines that a program can use.

Q47) Why C is called a structured programming language?

Ans: C is called a structured programming language because to solve a large problem, C programming language divides the problem into smaller modules called functions which solves the particular responsibility. The problem which solves the entire problem is a collection

Examples

(6) what is structured programming language?

Ans: Structured programming is a subset of procedural programming that enforces a logical structure on the program being written to make it more efficient and easier to understand and modify.

(7) what is array of string in c language?

Ans: A string is actually one dimentional array of charecters in c language and terminated by a null charecter '\0'.

(8) what

* Structure programming in a logical programming method that is considered a precursor to object oriented programming (OOP). Structure programming facilities program understanding and has a top-down design approach, where a system is divided into composition of system.