

C Interview question answer

What is C

C is a Procedure Oriented Programming Language. It was developed by Dennis Ritchie at AT & T's Bell Laboratories of USA in 1972.

What is pointer

pointer is variable that store the address of other variable.

What is pointer to a pointer

Pointer variables are also allocated memory hence they also have some address. The variable which stores the address of a pointer variable is termed as a pointer to pointer.

What is Array

Array is a collection of similar data type

What is Structure in C

A Structure is a collection of dissimilar data type.
it is an user defined data type.

What is String in C

A String is nothing but an array of characters terminated by '\0'.

What is function

A function a set of statement that perform coherent task of some kind. every C program is collection of these function

Why we use Functions

Writing functions avoids rewriting the same code over and over. Suppose you have a section of code in your program that calculates area of a triangle. If later in the program you want to calculate the area of a different triangle, you won't like it if you are required to write the same instructions all over again. Instead, you would prefer to jump to a 'section of code' that calculates area and then jump back to the place from where you left off. This section of code is nothing but a function.

What is the difference between declaring a variable and defining a variable?

Declaring a variable means describing its type to the compiler but not allocating any space for it. Defining a variable means allocating space to hold the variable. You can also initialize a variable at the time it is defined.

What is modular programming?

If a program is large, it is subdivided into a number of smaller programs that are called modules or subprograms. If a complex problem is solved using more modules, this approach is known as modular programming.

Is using `exit()` the same as using `return`?

No. The **`exit()`** function is used to exit your program and return control to the operating system. The **`return`** statement is used to return from a function and return control to the calling function. If you issue a return from the `main()` function, you are essentially returning control to the calling function, which is the operating system. In this case, the return statement and `exit()` function are similar.

What is the output of printf("%d")?

When we write `printf("%d",x);` this means compiler will print the value of x. But as here, there is nothing after %d so compiler will show a garbage value.

What is difference between macro and function?

In macro call, preprocessor replaces the macro template with its macro expansion. As against this, in function call the control is passed to the function along with certain argument, some calculation are performed in the function and a useful value is returned back from the function.

Usually macros make the program run faster but increase the program size. if we use a macro hundred times in a program the macro expansion goes into our source code at hundred different places thus increasing the program size.

And function makes the program run slow and smaller. if function is used then if it is called from hundred different places in program it would take same amount of space in program. and by passing argument to function and getting back returned value does take time and would therefore slow down the program

thus macro makes the program run faster and increase size and function make program slow and smaller size.

What is an lvalue?

An lvalue is an expression to which a value can be assigned. The lvalue expression is located on the left side of an assignment statement, whereas an rvalue is located on the right side of an assignment statement. Each assignment statement must have an lvalue and an rvalue. The lvalue expression must reference a sortable variable in memory. It cannot be a constant.

Why we use Macro definition

There is perhaps a more important reason for using macro definition than mere readability. Suppose a constant like 3.1415 appears many times in your program. This value may have to be changed some day to 3.141592. Ordinarily, you would need to go through the program and manually change each occurrence of the constant. However, if you have defined PI in a #define directive, you only need to make one change, in the #define directive itself: `#define PI 3.141592`

What is Call by value and call by reference

In function call, if we pass value of variable to a function . such function calls are called “**call by value**” and we also know that variables are stored somewhere in memory so instead of passing the value of a variable if we pass the address of that variable to a function . It would become a “**call by reference**”

What is Recursion

Recursion is the process of defining something in term of itself . A function is called “recursive” if a statement within the body of a function calls the same function.

What is Data type

Data type of any language specifies the type of data to be stored and size of memory to be allocated.

For Example , in C

```
int i ;
```

then it means i is a variable of type int and it can store only integer value and size of memory allocated to it is 2 Byte.

What is Program

A computer program is a set of instructions for a computer to perform a specific task.

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