Assignment -3 & 4

25/08/2023

Q1] What is the difference between constant variable & non constant variable?

Ans The term variable is considered as a data container which is able to vary its value.

Constant is a type of data qualifier which sets the quality of data.

The value of constant variable cannot be changed; They have l-value (location value) but the l-value is non-modifiable l-value.

Q2] What is meant by block?

Ans One of the C programming's characteristic is: It is a block-structured language which means the body of the program is written inside { } which gets executed. These are also called function-blocks

Q3] What is meant by array?

Ans Array is considered as a linear data structure.

Array is a derived data type in C, C++ & Java

Array is a derived data type which holds multiple homogenous elements in indexed format.

Memory for an array is allocated sequentially instead of storing each primitive data type element seperately.

Q4] What are different standardisations of C?

Ans 1] K & R (Kernighan & Ritchie) 3] C-99

2] ANSI - 4] ISO

Q5] What is difference between local variables & global variables?

Ans

Local variables	Global Variables
⁘ Local variables are always declared inside a function	⁘ Global variables are always declared outside any function.
⁘ Local variable cannot be accessed outside the function in which they're declare	⁘ Global variables can be accessed from anywhere & from any function in the program.
⁘ Eg: `main() { int a=10; ← Local variable }`	⁘ Eg: `int a=10; ← Global variable main() { ... }`

Q6] What are the tasks of operating Systems?

Ans Any operating systems performs 5 tasks

1] File management

2] Process management

3] Memory management

4] Hardware Abstraction

5] CPU - Scheduling

Q7] What is meant by Data Structures?

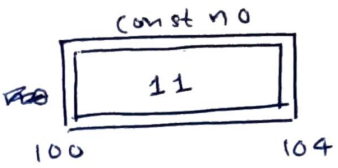
Ans Data structures is a way of storing & representing data in a particular format. There are two types of data structures;

1) Linear :- Array, stack, queue.

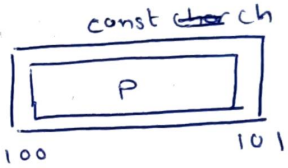
2) Non-Linear :- Tree, Hash Map, etc

Q8] Read the statements below & draw its diagramatic layout.

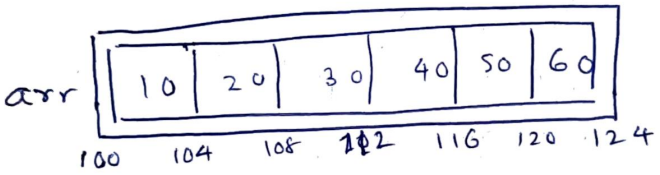
Ans const int no = 11;



const char ch = 'P';



const int arr[6] = { 10, 20, 30, 40, 50, 60 };



Q9] What is meant by function declaration & function definition?

Ans Function declaration is the prototype of function. It is not compulsory but it is defined before the function definition. It gives the layout of the function definition

Syntax:

return type function-name (int, int);

abstract parameter declaration

or

return type function-name (int a, int b);

Complete parameter declaration

Q10] what is meant by pre processor directive symbol?

Ans '#' is the preprocessor directive symbol.

It is a symbol which adds libraries which has standard defined functions. ~~to suit the Operating env~~

These are the standard header files with predefined functions in it.

Eg # include<stdio.h>

enables the use of function printf & scanf

Q11] what are the tasks of preprocessor?

Ans the preprocessor is a tool from toolchain which accepts '.c' file as a input & which will generate '.i' file as an output.

.i stands for intermediate code & it is a human readable file.

The preprocessor performs 3/4 tasks

1] Header file inclusion : If our program contains the statements which starts with '# include' then the preprocessor will include that header file in our program.

2] Macro Expansion : Here the human readable word gets converted to a value.

That readable word is macro

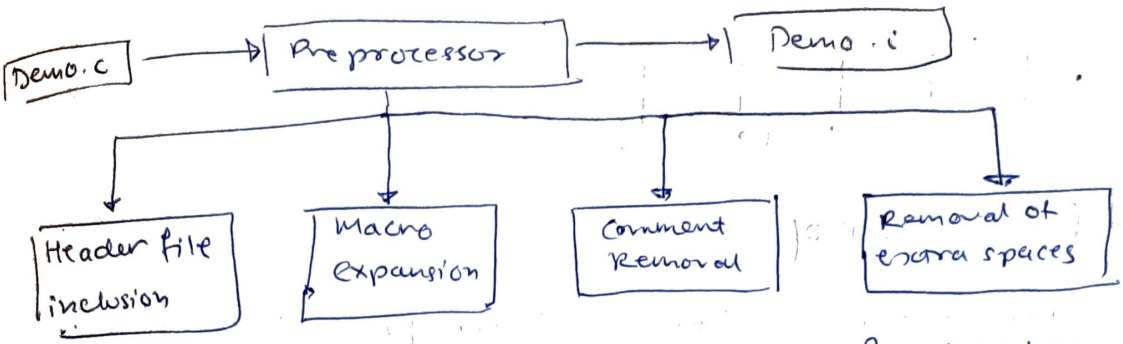
Eg: ~~# DOZEN~~ # define DOZEN 12

define SHEKADA 100

The preprocessor replaces the above words with value given after them. It is a good programming practice to use macro in capital case.

c) Comment Removal : the preprocessor removes all the comments from the program because they are not part of program.

4] Removal of whitespaces : the preprocessor removes all the extra lines, whitespaces, tabs, etc.



Q12] What is meant by platform dependent & architecture dependent?

Ans