C Programming Assignment List

Pointers

1. A C program contains the following
declaration int x[8]= {10,20,30,40,50,60,70,80};
- What is the meaning of x?
- What is the meaning of (x+2)?
- What is the value of *x?
- What is the value of (*x+2)?
- What is the value of *(x+2)?.

2. A C program contains the following declaration
   float table[2][3] = { { 1.1,1.2,1.3},{2.1,2.2,2.3}};
   a) What is the meaning of a table?
   b) What is the meaning of (table+1)?
   c) What is the meaning of *(table+1)?
   d) What is the meaning of (*(table+1)+1)?
   e) What is the meaning of (*(table)+1)?
   f) What is the value of *(*(table+1) +1)?
   g) What is the value of *(*(table)+1)?
   h) What is the value of *(*(table+1)?
   i) What is the value of *(*(table) + 1)+1?

3. A C program contains the following
declaration
   char *color[6] = {"red", "green", "blue", "white", "black", "yellow"};
   a. What is the meaning of color?
   b. What is the meaning of (color+2);
   c. What is the value of *color?
   d. What is the value of *(color+2)?
   e. How do color[5] and *(color + 5) differ?.

4. Write a program to count the number of 'e' in the following array of pointer to the string.
   char * s [ ] = {
           "we will teach you how to " ;
           "Move a mountain ""Level a building " ;
           "Erase the past ";
                 "Make a million " ;
               }.

5. Write a function ``replace'' which takes a pointer to a string as a parameter, which replaces all spaces in that string by minus signs, and delivers the number of spaces it replaced.
  Thus

    char *cat = "The cat sat";
    n = replace(cat);

      should set
    cat to "The-cat-sat"

      and
    n to 2.

6. Write a C program to Access Elements of an array using Pointer

7. Write a C program to find largest element using Dynamic Memory Allocation

8. Program to swap two numbers using pointers

9. Program to change the value of constant integer using pointers

10. Program to print a string using pointer

11. Program to count vowels and consonants in a string using pointer

12. Program to demonstrate example of double pointer (pointer to pointer)

13. Program to demonstrate example of array of pointers

14. Program to give example of Null Pointer

15. Program to make a valid pointer as Null Pointer

16. Program to modify value stored in other variable using pointer

Preprocessor

1. Write a C program to calculate factorial of a number. Factorial function has to be written as a multiline macro.

2. Develop sample programs using preprocessor operators #, ## and also conditional compilation.