Pointers

Lab questions, set 2

11. Write a C program to declare an integer variable 'a' with the value 25.
Print:

    i.   the value of a

    ii.   the address of 'a' using the address operator (&).

12. Write a C program to declare an integer variable num with the value 50 and an integer pointer p. Initialise p with the address of num and display the value of num using the pointer.

13. Write a C program to declare an integer variable x with the value 10 and a pointer ptr. Use the pointer to access and print the value of x by dereferencing it.

14. Consider the following statements:

    i.   &125
    ii.   int x[10];
          &x
    iii. int a = 5, b = 10;
          &(a + b)

Try to print these statements and see whether the compiler produces an error or not.

15. Given an integer array
int x[] = {5, 2, 6, 1, 5, 7};
and an integer i = 2, write a C program to print the addresses obtained using:

    i.   &x[0]

    ii.   &x[i + 3]

16. Write a C program to declare an integer array
int arr[5] = {10, 20, 30, 40, 50};
Use a pointer to traverse the array and display all its elements.

17. Write a C program to declare:

    i.   an integer variable a = 100 and an integer pointer

    ii.   a float variable b = 12.5 and a float pointer

Display both values using their respective pointers.

18. Write a C program to display the size of the following pointer variables:

    i.   int *p

    ii.   float *q

    iii.   char *r

Print the size of each pointer variable and observe the output.

19. Write a C program to declare an integer variable n = 20.
Use a pointer to change its value to 40 and then print the updated value.

20. Consider the declaration:

    int quantity = 10;

    int *p = &quantity;

Increment the quantity by 5 using the pointer variable 'p' and print the output.