Homework 09

1. Declare two (type double) pointer variables named d_var and d_array. Write C++ statements to dynamically create a double-precision floating-point variable and store its address in d_var. Also dynamically create an array of 10 double-precision floating-point values and store its address in d_array:

2. Write C++ statements to input a value for d_var (i.e., a value that d_var points to) from the console and then display it:

3. Write C++ statements to initialize the 10 double values in the dynamically allocated array to 1.0. Now write C++ statements to de-allocate the memory (i.e. using the delete operator) pointed by d_var and d_array:

4. Write a program in C to find the largest element using Dynamic Memory Allocation

   Test Data :
   Input total number of elements(1 to 100): 5

   Number 1: 5
   Number 2: 7
   Number 3: 2
   Number 4: 9
   Number 5: 8
   Expected Output :

   The Largest element is : 9.00

5. A user-defined structure named Timer has two integer parameters to initialize hour and minute members. Write a single C++ statement to create an object of the Timer structure using dynamic memory allocation and assign it to a pointer variable named timePtr. Assign values of 10 and 20 for hour and minute respectively.

6. Letter Frequency
   Write a function that will take a string and return a count of each letter in the string. For example, "my dog ate my homework" contains 3 m's, 3 o's, 2 e's, 2 y's and one each of d, g, a, t, h, w, r and k.
   Your function should take a single string argument and return a dynamically allocated array of 26 integers representing the count of each of the letters a - z respectively. Your function should be case insensitive, i.e., count ‘A’ and ‘a’ as the occurrence of the letter ‘a’. Do not count non-letter characters (i.e., spaces, punctuation, digits, etc.) Write a program that will take a string from the user using *cin*, call your letter frequency function and print out the

frequency of each letter in the string. Do not list letters that do not occur at least once.
Example:
Enter a string: “my dog at my homework”
Letter frequency
a 1
d 1
e 1
g 1
h 1
k 1
m 3
o 3
r 1
t 1
w 1
y 2