United International University
Department of Computer Science and Engineering
CSE 1112 Structured Programming Language Laboratory
Section B
Summer 2021
Lab 7(Home)

1. Write a program to determine if a number is even or odd using a function *is_even(number)* written by you.

   Sample Input:
   Enter a number: 15
   Sample output:
   The number is odd.

2. Write a program that will find x^y (x to the power y) where x, y are positive integers using the function calc_power() written by you. Show error messages if input is negative.

   Sample Input:
   Enter x and y : 3 4
   Sample output:
   The result is: 81

3. Write a program to take n numbers as input in an array and calculate mean and standard deviation using the functions c*alc_mean(array, num_of_elem), calc_std(array, num_of_elem).*
   Formula for standard deviation is:

   $$\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^{N} (x_i - \mu)^2}.$$

   Sample Input:
   How many numbers? 10
   Enter the numbers: 9 11 34 23 16 15 2 37 89 54
   Sample Output:
   Mean: 29
   Standard deviation: 24.8355

4. Write a program to take a string as input and find its length as output. Also show the string in reverse as output. Use function int mystrlen(char s[]) and void mystrrev(char s[]) to do the task.

   Sample Input:
   Enter a string: hello world
   Sample output:
   11
   dlrow olleh