

Attach the assignment to your HW/Lab

Date: \_\_\_\_\_

You name \_\_\_\_\_

ENGR 102 Section

Lab 3zy

**DUE DATE:** see website

Team # (table) \_\_\_\_\_

ENGR 102 Sect # \_\_\_\_\_ Lab 3y

**100points**

**Reading assignment:**

Lecture Slides	L03a, L03b week 3
zyBook chapters 3	Chapter 3
pdf handouts -Week 3	Week 3
File <Introduction_to_PC_handout.pdf>	Located in Week 3

***Attention!!***

***For submission: pdf/word file and all py-files as asked in the assignment. If you do pictures by the phone –please make sure that we can read them. Do not submit multiple pictures, collect them all into one file (word or pdf). You will be allowed to resubmit and reupload HW as many times as you want to within the due date/time, only last submission will be graded. No late submissions.***

***For submission you may use this file as a template: rename file including your name. Do not forget to put your name inside of this file as well.***

***If you are submitting py- files, make sure that they have a header.***

You may talk with others in lab about how to go about doing each of assignments. However, submission should be individual

**Problem 1 [10 pts]** Find the maximum and minimum values that can be stored in a 2-byte integer variable. To get a full credit you need to provide derivation and explanation

**Problem 2 [10 pts]**

Can a 4-byte variable of the real data type be used to store larger number than 4-byte variable of the integer data type? Why or why not? To get a full credit you need to provide derivation and explanation

**Problem 3 [10 pts]**

A second type of floating point data – is *Double precision*. A double precision number usually occupies 8 bytes (64 bits), instead of the 4 bytes occupied by real number. If 53 bits are used for mantissa and 11 bits are used for exponent. How many significant digits does double –precision value have? What is the range of double precision numbers? To get a full credit you need to provide derivation and explanation

**Problem 4 [5 points]**

**4.1 [4 points]** Complete Zybook Participation activity. "3.2.1: Scientific notation." Put your screenshot of the completed assignment here.

**4.2 [4 points]** Complete Zybook Participation activity. "3.2.2: Floating-point versus integer" Put your screenshot of the completed assignment here.

**4.3 [4 points]** Complete Zybook Participation activity. 3.2.4: Reducing floating-point output. Put your screenshot of the completed assignment here.

**4.4 [4 points]** Complete Zybook Participation activity. "3.3.3: String basics." Put your screenshot of the completed assignment here.

**4.5 [4 points]** Complete Zybook Participation activity 3.3.6: String variables. Put your screenshot of the completed assignment here.

**4.6 [5 points]** Complete Zybook Participation activity 3.3.6: Using len() to find the length of a string. Put your screenshot of the completed assignment here.

**4.7 [5 points]** Complete Zybook Participation activity. "3.5.1: Implicit conversions between float and int" Put your screenshot of the completed assignment here.

**4.8 [5 points]** Complete Zybook Participation activity. "3.5.2: Type conversions" Put your screenshot of the completed assignment here.

**4.9 [5 points]** Complete Zybook Participation activity. "3.6.3: Printing text on the same row." Put your screenshot of the completed assignment here.

**4.10 [5 points]** Complete Zybook Participation activity. "3.6.7: Single print statement." Put your screenshot of the completed assignment here.

**4.11 [5 points]** Complete Zybook Participation activity. "3.6.11: Converting user input to integers." Put your screenshot of the completed assignment here.

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**4.12 [ 5 points]** Complete Zybook Participation activity. “3.10.2: Identify the output of f-strings.”  
Put your screenshot of the completed assignment here.

**4.13 [ 5 points]** Complete Zybook Participation activity. “3.10.3: Output of f-strings using debug features and escape characters.” Put your screenshot of the completed assignment here.

**4.14 [ 5 points]** Complete Zybook Participation activity. “3.10.4: Format specifications and presentation types.” Put your screenshot of the completed assignment here.

**4.15 [ 5 points]** Complete Zybook Participation activity. “3.10.4: Format specifications and presentation types.” Put your screenshot of the completed assignment here.