

Assignment 3 (Variables and Expressions contd.)

1. Write a program to declare three variables of integer, character and floating-point type. Assign values to the variables and print their values in the following format.

Value of integer variable x=5

Value of character variable y=A

Value of float variable z=2.500000

2.

- a. Write a program to enter a character type variable in LOWER case and print its ascii value.

- b. Modify the program in 2(a) to print the character in UPPER case.

3. Write a program that predicts how many whole sections of a batch would need to be created given the number of students enrolled in the batch. Assume that each section accommodates 30 students. Prompt the user to enter the number of students enrolled. Echo print the number of students enrolled and then display both the number of sections that will be required and the number of students that will be left over.

4. Write a program that takes the length and width of a rectangular yard and the length and width of a rectangular house situated in the yard. Your program should compute the time required to cut the grass at the rate of two square feet a second.

5. Write a program that estimates the temperature in a freezer (in °C) given the elapsed time (hours) since a power failure. Assume this temperature (T) is given by

$$T = \frac{4t^2}{t + 2} - 20$$

where t is the time since the power failure. Your program should prompt the user to enter how long it has been since the start of the power failure in whole hours and minutes. Note that you will need to convert the elapsed time into hours. For example, if the user entered 2 30 (2 hours 30 minutes), you would need to convert this to 2.5 hours.

6. Write a program to calculate the bill amount for a given item given its quantity sold, value, discount and tax. Prepare the bill in the following format:

***** BILL *****

QUANTITY SOLD:	20
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PRICE PER ITEM:	300
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AMOUNT:	6000
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DISCOUNT:	- 600
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DISCOUNTED TOTAL:	5400
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TAX:	+ 648
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TOTAL AMOUNT	6048
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