**CSC 110. Test#1. Preparation**

1. **Evaluate the expression. Show the value and data type of each expression below:**

**For all of this a=5, b=4.0, c=11**

|  |  |  |
| --- | --- | --- |
| **c / a** | **c % a + b\*2** | **str(c) + str(b) + a** |
| **c % a + int(b\*2)** | **round(c/a)** | **str(a+b)** |
| **c\*4/b\*\*2** | **'Seattle' < "Tacoma" and c > a** | **a > b or 'a' > 'b'** |

1. **Find the errors. The program has 4 syntax errors. Clearly mark the syntax and make changes to the program to correct them.**

**print ("This program will convert feet to inches)**

**# get feet from user**

**feet = float(input("Enter feet: ")**

**inches = feet \* 12**

**print (feet +'ft = ', inches, in)**

1. **Convert the following decimal numbers to binary: 25, 125**
2. **Convert the following binary numbers to decimal: 10101, 1110111**
3. **Name at least 4 of the 5 steps of the program development cycle.**
4. **Show the output. Show what will appear in the shell window when the following block of code is executed. Assume that the code has no errors.**

**c=4**

**d=7**

**result = 2.0\*c-1**

**print(result \* 2.0)**

**result=c\*2 + d/2**

**print("Given c=" + str(c) + " and d=" \**

**+ format(d,'.1f') + '\nthe result is: ', result)**

1. **Show the output. Show what will appear in the shell window when the following block of code is executed. Assume that the code has no errors.**

**COVERAGE=50.0**

**sqFoot=float(input("How many square feet? "))**

**gal=round(sqFoot\*2/COVERAGE)/2.0**

**print("Better by " + format(gal, '.0f'), end = " ")**

**print("gallons to over " + str(sqFoot) + " sq. ft.")**

**# Assume the user enters the number 200**

1. **Write some code. Write a program that asks the user for two pieces of information: the price of the product and the quantity. Then, calculate the total the total cost including tax of 10%. Finally, show the user a report that produces all values with only the calculated value rounded to one place after the decimal point (the values entered by the user should not be rounded). Don’t forget about input validation.**