Assignment 1

Start with program to find the average of 3 numbers.

1. The cost of making a pizza at a local shop is as follows:
   1. Labor cost is $0.75 per pizza, regardless of size
   2. Rent cost is $1.00 per pizza, regardless of size
   3. Materials cost $0.05\*diameter\*diameter (diameter is measured in inches)
   4. Extra toppings cost $0.25 per topping, regardless of size of pizza

Create a PizzaCost application that prompts the user for the size of the pizza and the number of toppings and then displays the cost of making the pizza. The application output should look similar to:

**Enter the diameter of the pizza in inches (6 to 18): 10**

**Enter the number of toppings you want on your pizza (0 to 10): 3**

**The cost of making the pizza is: 7.50**

Try modifying your code so that if the user enters an inappropriate value, the program will let them know and they can enter a new value. Since we have not done loops yet, just give them one more chance at a correct input.

1. Create a TimeConversion application that prompts the user for a time in minutes and then displays the time in hours and minutes. Be sure to consider times whether the number of minutes left over is less than 10. For example, 184 minutes in hour:minute format is 3:04 (Hint: use the modulus operator). The application output should look similar to:

**Enter the time in minutes: 135**

**The time is: 2:15**

1. A runner wants to keep track of how much he runs. The GPS he uses to keep track does so in km. The runner is suppose to keep track of his runs for one week and tell his coach how many *miles* he ran for the week. Make a program that allows the runner to input each the number of kilometers that they ran and at the end output the number of kilometers and miles for the week. You need to look up what the conversion for kilometers to miles is. The output should look similar to:

**How many km did you run on Sunday:? 20**

**How many km did you run on Monday:? 5**

**How many km did you run on Tuesday:? 12**

**How many km did you run on Wednesday:? 0**

**How many km did you run on Thursday:? 8**

**How many km did you run on Friday:? 10**

**How many km did you run on Saturday:? 15**

**For the week you ran:**

**Sunday: 20.0 km (12.0 miles)**

**Monday: 5.0 km (3.0 miles)**

**Tuesday: 12.0 km (6.5 miles)**

**Wednesday: 0.0 km (0.0 miles)**

**Thursday: 8.0 km (5.0 miles)**

**Friday: 10.0 km (6.0 miles)**

**Saturday: 15 km (9.0 miles)**

**Your total running for the week was 70 km (41.5 miles)**

1. You have been asked to write a program for the Sam and Ella Delicatessen. The program takes deli orders from the Internet. It asks for the item, its price in cents, and if overnight shipping is wanted. The program writes out the order and the charges. Regular shipping for items under $10 is $2.00; for items $10 or more shipping is $3.00. For overnight delivery add $5.00. The output should look similar to:

**Enter the item: Tuna Salad**

**Enter the price: 450**

**Overnight delivery (0==no, 1==yes): 1**

**Invoice:**

**Tuna Salad 4.50**

**shipping 7.00**

**total 11.50**

1. Al's Last Chance Gas station sits on Route 190 on the edge of Death Valley. There is no other gas station for 200 miles. You are to write a program to help drivers decide if they need gas. The program asks for:

* The capacity of the gas tank, in gallons.
* The indication of the gas gauge in percent (full= 100, three quarters full = 75, and so on).
* The miles per gallon of the car.

The program then writes out "Get Gas" or "Safe to Proceed" depending on if the car can cross the 200 miles with the gas remaining in the tank. The output should look similar to:

**Tank capacity:**

**12**

**Gage reading:**

**50**

**Miles per gallon:**

**30**

**Get Gas!**

NOTE: For number 6, if you will have to write the same code a number of times or use a loop structure. Look up how to create a loop so the code is much shorter. You will also have to use a random number generator for java.

1. (Optional) Create a guessing game where the computer randomly picks a number between 1 and 100 and allows the user to have 10 guesses and the computer tells the user if their guess is too high or too low. The output should look similar to:

**I have chosen a number between 1 and 100 and you have 10 guesses to guess the correct number.**

**Guess 1: 32**

**Too low**

**Guess 2: 60**

**Too high**

**Guess 3: 70**

**Too high**

**Guess 4: 53**

**Too low**

**Guess 5: 57**

**Too low**

**Guess 6: 58**

**Correct, the number was 58!**