

**CENG113**  
**Programming Basics**  
**HOMEWORK #1 Coffee Shop**

**DUE DATE: 13.11.2017 - 15:00**

You are expected to write a Python program for a coffee shop.

In the shop, there are several coffee types which are given to you in Python list named ***coffee\_list*** and their corresponding prices are given to you in another Python list named ***price\_list***:

```
coffee_list = ["Espresso", "Cappuccino", "Americano", "Macchiato", "Mocha", "Filter", "Turkish"]  
price_list = [5.50, 7.75, 7.25, 9.50, 9.25, 5.75, 6]
```

For each customer, the coffee shop program asks for the **coffee type, coffee cup size and the number of cups**. (*Note: A customer can only ask for one type/size of coffee for each order.*)

- **Coffee type:** It can be one of the coffee types which is listed in **coffee\_list**.
- **Coffee cup size:** It can be "Tall", "Grande", and "Venti". Price of tall size coffees is listed in **price\_list**. Price of grande size is 1 TL higher than the price of tall size. Price of venti size is 0.50 TL higher than the price of grande size. (*Exception:* For Turkish coffee, there is no grande and venti size.)
- **The number of cups:** It determines how many cups of coffee are ordered by the customer.

After receiving those three answers, the program calculates the total price of the ordered coffees.

- If the calculated total is higher than 20TL, the program makes a 10% discount.
- Every multiple of 10th customer is congratulated and gets a free order. He/she doesn't have to pay anything.

Then, the program informs the customer how much the order costs.

At the end of the day, the program calculates the total income and the total number of cups of coffees sold. (End of the day is signaled by entering "X" as the coffee type.)

**Important Notes:**

- You should take **three** inputs from the customer: coffee type, coffee cup size and the number of cups.

- Be careful about **invalid** inputs! Ask each question over and over again until a valid input is entered.
- Coffee type and cup size should be **case insensitive**.
- You should **print** the following statements for customers: "You ordered 5 Grande cups of Mocha and the price is 41.625 TL"
- You should **print** the following statements for the coffee shop at the end of the day: "We have sold 60 coffees and our total sale is 418.5 TL".

### **Tips:**

- Using `isdigit()` function, the strings given by the users can be checked if they are composed of only digits:

```
my_str = "abcd"
my_str.isdigit() => False
my_str = "359"
my_str.isdigit() => True
```

- Using `title()` function, the first letters of the strings given by the users can be capitalized:

```
my_str = "abcd"
my_str = my_str.title()           #my_str becomes "Abcd"
```

### **Submission Rules:**

Students who do NOT FOLLOW THESE RULES WILL BE GRADED AS 0.

1. You should submit your assignments through CMS until due date.
2. Your homework should be named as **CENG113\_hw1\_studentID.py** (ie: CENG113\_hw1\_123456789).
3. Use comments in your code, otherwise you will **lose** some points.
4. Write your **student ID** as a comment **at the beginning of your code**.