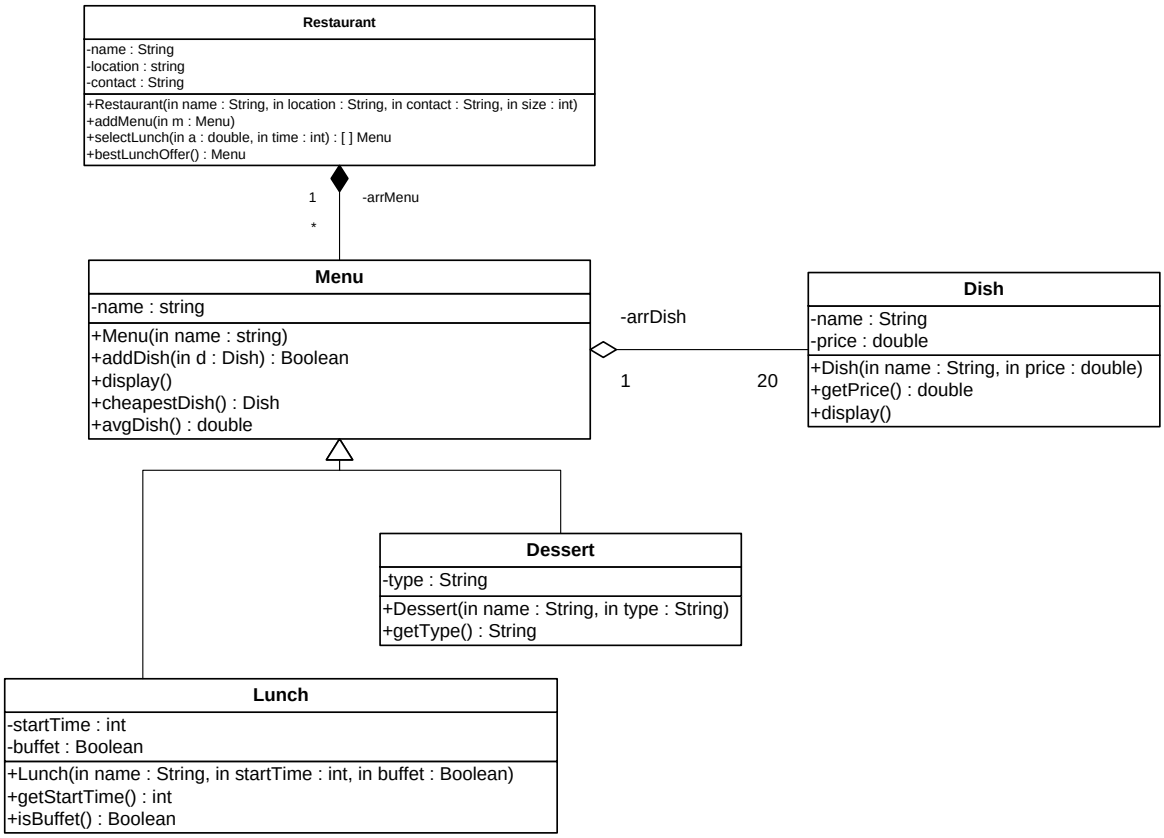
King Saud University
College of Computer and Information Sciences
Department of Computer Science
CSC113 – Computer Programming II Mid Term 1 Exam – Fall 2016

Exercise 1



Dish class***:***

- Attributes:
  - ***name***: The name of the ***Dish***.
  - ***price***: The selling price of the ***Dish***.
- Methods:
  - ***Dish(name: string, price: double)***: constructor
  - ***getPrice()***: This method returns the price of the ***Dish***.
  - ***display()***: This method displays the name and the price of the ***Dish***.

Menu class
- Attributes:
  - ***name***: The name of the ***Menu***.
- Methods:
  - ***Menu(name: string)***: Constructor.
  - ***addDish(d: Dish)***: This method adds a Dish to the Menu. It returns true if the ***Dish d*** is added; false otherwise.
  - ***display()***: This method displays all the attributes of the ***Menu*** (or ***Lunch*** or ***Dessert***). It displays also all the Dishes of the Menu.
  - ***cheapestDish():*** This method returns the ***Dish*** having the lowest price.
  - ***avgDish():*** This method returns the average price of all Dishes in the ***Menu***.

Dessert class:
- Attributes:
  - ***type***: It indicates the type of the ***Dessert***. E.g. "Ice-cream", "Fruit", "Cake", etc.
- Methods:
  - ***Dessert(name: string, type: String)*:** Constructor.
  - ***getType()*:** This method returns the type of the ***Dessert***.

Lunch class:
- Attributes:
  - ***startTime***: It indicates the time when the ***Lunch*** starts.
  - ***buffet***: It indicates whether the ***Lunch*** is a buffet or not.
- Methods:
  - ***Lunch(name: string, startTime: int, buffet: boolean)*:** Constructor.
  - ***getStartTime()*:** This method returns the start time of the ***Lunch***.
  - ***isBuffet()*:** This method returns the value of the buffet attribute of the ***Lunch***.

QUESTION: Translate into Java code the class ***Menu*** and the class ***Dessert***.

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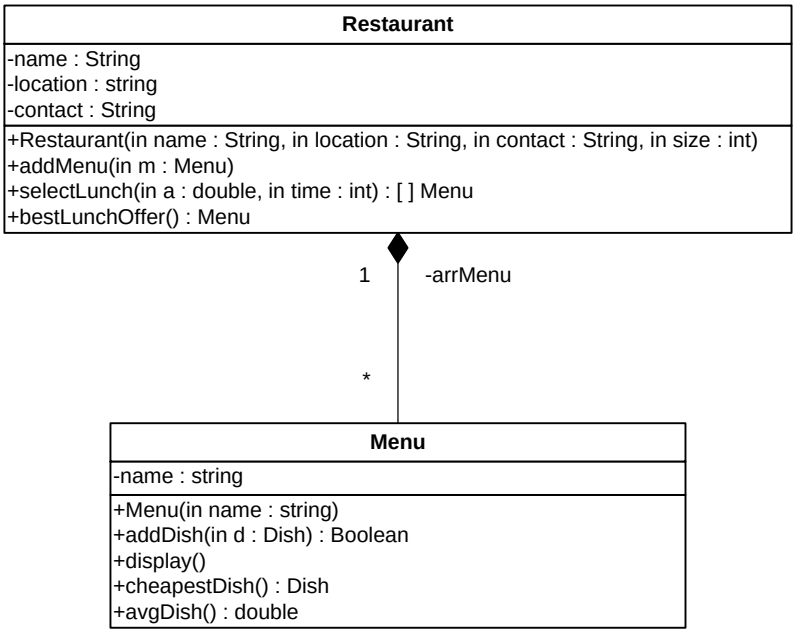
Exercise 2:

Let's consider the same class ***Menu*** described in exercise 1.



Restaurant class:

- Attributes:
  - ***name***: The name of the ***Restaurant***.
  - ***location***: The location of the ***Restaurant***.
  - ***contact***: The contact information of the ***Restaurant***.
- Methods:
  - ***Restaurant(name: String, location: String, contact: String, size: int)*:** Constructor.
  - ***addMenu(m: Menu)*:** This method adds the ***Menu m*** to the ***Restaurant***.
  - ***selectLunch(a: double, time: int)*:** This method returns all ***Lunch***es which the average ***Dish*** price is less than ***a*** and starts at ***time***.
  - ***bestLunchOffer()*:** This method returns the ***Menu*** containing the cheapest ***Dish.***

QUESTION: Translate into Java code the class ***Restaurant***.