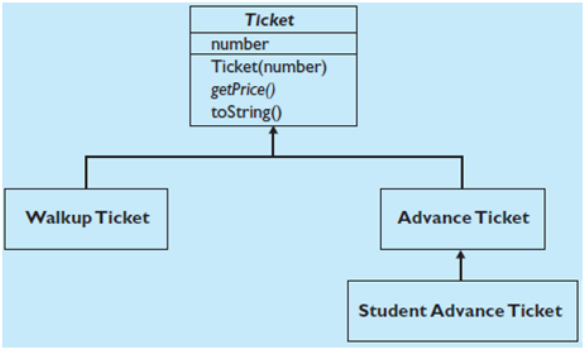
CSCI 221, Spring 2017 Due: Friday, April 7, 11:59 pm
Programming HW 6 No penalty date: 24 hours later

The problem is to develop a set of classes to represent types of tickets to campus events. Each ticket has a unique number and a price. There are three types of tickets: walk-up tickets, advance tickets, and student advance tickets. See the figure.



- Walk-up tickets are purchased the day of the event and cost $50
- Advance tickets purchased 10 or more days before the event cost $30, and advance tickets purchased fewer than 10 days before the event cost $40.
- Student advance tickets are sold at half the price of normal advance tickets: When they are purchased 10 or more days early they cost on $15, and then they are purchased fewer than 10 days early, they cost $20.

1. Implement a class called **Ticket** that will serve as the superclass for all three types of tickets. Define all common operations in this class, and specify all the differing operations in such a way that every subclass must implement them. No actual objects of type Ticket will be created: Each actual ticket will be an object of a subclass type.

Define the following operations:

- The ability to construct a ticket by number
- The ability to ask for a ticket's price
- The ability to println a ticket object as a String. An example String would be "Number: 17, Price: $50.00"

2. Implement a class called **WalkupTicket** to repsent a walk-up event tickets. Walk-up tikets are also constructed by number, and they have a price of $50.

3. Implement a class called **AdvanceTicket** to rpespresnt ticket spurchased in advance. An advance ticket is constructed with a ticket number and with a number of days in advance that the ticket was purchased. The price is as described above.

4. Implement a class called **StudentAdvanceTicket** to represent tickets purchased in advance by students. A student advance ticketed is constructed with a ticket number and the number of days in advance that they ticket was purchased. Costs associated are described above. When a student advance ticket is printed, the String should mention that the student must who his or her student ID (for example, "Number: 17, Price: $15.00 (ID required)")

For each class, use the minimum number of instance variables required. For "magic numbers" like prices, use constants (final variables, rather then hard-coding the magic number into the code – prices could change). All instance variables should be declared to be private and no "setter" methods are to be included in any class. Names must match those specified above.

5. Include a **TestTickets** driver program that demonstrates that the classes developed work properly.

Finally,

- Document each class as normally expected.
- Put all java files into a folder named : yourlastnameHW6 and zip it up. For example, my folder would be McCauleyHW6 and when zipped the file would be named McCauleyHW6.zip.
- Upload to OAKS by the due date and time.
- Have a good weekend!