As a group, write a preliminary set of use cases and identify a preliminary set of classes for the program scenario to which you have been assigned. If you have time, you can practice with some of the other scenarios as well.

At the end of the exercise, you should present:

- A minimum of 5 use cases describing various ways a user can interact with the system

- A set of at least 4 classes that can fulfill the responsibilities implied by your use cases

YOU HAVE 35 MINUTES TO COMPLETE THIS EXERCISE

1. A jukebox plays songs selected by a user from a list of available songs. The user pays a fee, and may select a specified number of songs depending on the amount of money deposited. The users’ selections are played in the order selected; if several users have made several selections, they are played in order from the least recent user to the most recent user. The owner of the jukebox can change the song selections, and can change the settings so that a different number of songs may be chosen for a particular amount of money.

2. An alarm clock displays the current time in hours, minutes and seconds. At a set time, the clock sounds an alarm. The user can turn off the alarm for 10 minutes by hitting the snooze button, or permanently by hitting the off button. The clock time and alarm time can both be set by the user. Without user intervention, the clock time changes automatically as seconds, hours and minutes pass. The clock also displays an indicator showing whether the current time is AM or PM.

3. A beverage vending machine dispenses a user’s selection of beverage (such as coffee, tea, hot chocolate, or soup), including size, strength, and choice of condiments. The user puts money in the coin slot, then makes his/her selection. The machine displays informative messages as necessary, e.g. if more money is required for the specified selection, or if the selected beverage is not available. Once a valid selection has been made, the machine dispenses the selection.

4. A mousetrap is a device that kills and/or traps mice and various other types of vermin. Its user can choose from a variety of lethal and non-lethal means to dispose of the pests they choose from the eradication list. Some means are available for one type of pest but not another; for example, you can squish a cockroach but not a mole (it’s just too icky). The trap holds bait to attract the vermin and provides a means for disposing of the remains (or survivor(s), depending on the disposal method chosen).