Assignment 6.1

For this assignment, write a separate class to solve each part of the assignment. These classes should all be within one BlueJ project (this will make Assignment 6.2 easier). *Do all parts of this assignment.*

Part 1: PinSetter

Karel sometimes works as a pin-setter in a bowling alley. Write a program that instructs Karel to place beepers in the world in the following pattern:

Karel should start in an empty world at 5,1 facing North with 10 beepers in his bag, and end at 5,6 facing South.
Part 2: PlanterBot
Karel has taken a part-time job as a gardener. His specialty is planting beepers. Karel's current task is to plant one and only one beeper on each corner around the "+" shaped wall as shown below.

Karel should begin and end at 2,2. Use the world cross.kwld from the class web site.
Intro to Computer Science :: Karel J. Robot

Part 3: CarpenterBot
Karel got bored with gardening, so the robot decided to try a different part-time job. He now installs carpets (made from beepers) in buildings in its world. Write a program that instructs karel to install a carpet in a building's hallway as shown below. There must be no "lumps" in the carpet, so be sure the robot puts one and only one beeper on each intersection in the room.

Karel must start and end somewhere inside the hallway.
Part 4: MountainClimber
In his spare time, karel likes to climb mountains. Program karel to climb a mountain and plant a flag (beeper) on the top, ending up on the other side. Remember that karel is not a super-robot that can leap mighty mountains in a single bound, but must closely follow the mountain's face on the way up and down (shown in red below).

Karel starts at 2,1 facing East, and ends at 8,1 facing East. Use the world mountain.kwld from the web site.
Intro to Computer Science :: Karel J. Robot

Part 5: RetrieverBot
On the way home from the supermarket, karel's shopping bag ripped slightly at the bottom, leaking a few expensive items. (What might robots eat? Oil?) These groceries are represented by—you guessed it—beepers. The initial situation, when karel discovered the leak, is shown below. Program karel to pick up all the dropped items and then return to the initial situation.

Use the world groceries.kwld from the class web site.