Submission Deadline: June 16, 2010

Exercise 8

In order to use the robot's ability to speak you have to implement one final Ice interface. After that we can start with the more interesting exercises in which you can really interact with the robot.

The interfaces for the robot's head are stored in `jast/output/Head.ice`. The only interface you will need is

```
void doOutput (string speech, HeadCommandSet commands)
```

it takes a string and a set of commands that control the head movements. The control of the head with these commands is rather complicated and would take too long for this course to implement. So, just use `doOutput()` to send a string and an empty set of commands to the head so that it can say things.

Please implement a class `HeadTestClient` that opens an Ice proxy to the robot's head and sends a few things the robot should say (you can send in English or German). Later, we are able to switch between German and English pronunciation from the Grid-GUI.

Exercise 9

Now that you know all the interfaces to the robot's input and output modules, we can finally use them to implement a first interaction between a human and the robot.

In this exercise, you will implement a simple game. The rules for the game are as follows: There are n Baufix pieces on the table, robot and human take turns in taking away pieces from the table. In each turn they have to take at least 1 piece but at most k pieces. The player who takes the last piece from the table is the loser. One of the players decides the number of pieces n, the other player decides k (which obviously must be $< n$).

You are free to decide how you want to implement this game (NB a winning-strategy exists). The only thing we want to see is that you use all interfaces we have used so far. That means, you can for example use speech recognition to tell the robot how many pieces you want to put on the table, the robot can use object recognition to check how many pieces are on the table. The robot should also say what it is doing, for example how many pieces it is about to take away from the table or it could congratulate the human when he/she wins.

In the next session we will run all your solutions on the robot to play with the robot :).