CS 161 Fall 2011 Take-Home Midterm (50 points)

You must write a *rock-scissors-paper* simulator. Each time your program is run, the simulator will play 10 rounds of the game rock-scissors-paper between two "computer" players named HAL and WOPR. A round of the game will consist of HAL and WOPR each picking randomly either "rock", "scissors", or "paper".

A round of rock-scissors-paper is scored as follows: If one player picks rock and the other picks scissors, the player with rock wins (rock crushes scissors). If one player picks scissors and the other picks paper, the player with scissors wins (scissors cut paper). If one player picks paper and the other picks rock, the player with paper wins (paper covers rock). If both players pick the same thing, the round is a tie.

Your program should print a report on each round, in the style

```
Round 3:
 HAL picks rock.
 WOPR picks paper.
 WOPR wins.
```

If the round is a tie, instead print "`It's a tie.`"

After 10 rounds, your program should report the final score and the final winner, in the style:

```
Final Score:
 HAL won 4 rounds.
 WOPR won 3 rounds.
 HAL wins.
```

If the game is a tie, instead print "`It's a tie.`"

Here is a sample run from my program solving this problem.

```
Round 1:
 HAL picks paper.
 WOPR picks rock.
 HAL wins.
Round 2:
 HAL picks scissors.
 WOPR picks paper.
 HAL wins.
Round 3:
 HAL picks rock.
 WOPR picks scissors.
 HAL wins.
Round 4:
 HAL picks paper.
 WOPR picks scissors.
 WOPR wins.
Round 5:
 HAL picks paper.
 WOPR picks paper.
 It's a tie.
Round 6:
 HAL picks paper.
 WOPR picks scissors.
 WOPR wins.
Round 7:
 HAL picks paper.
 WOPR picks rock.
 HAL wins.
Round 8:
 HAL picks scissors.
 WOPR picks rock.
 WOPR wins.
Round 9:
 HAL picks scissors.
 WOPR picks paper.
 HAL wins.
Round 10:
 HAL picks rock.
 WOPR picks rock.
 It's a tie.
Final Score:
 HAL won 5 rounds.
 WOPR won 3 rounds.
 HAL wins.
```