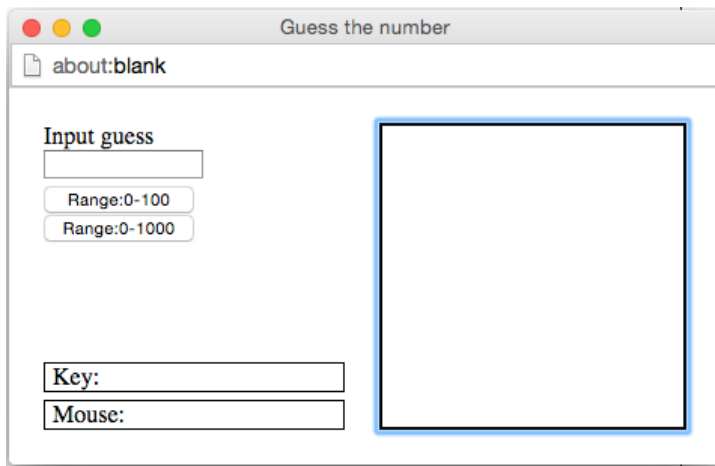


## Intro to programming II - PCR - fall 2015

### project 2: Guess the number

Template: [http://www.codeskulptor.org/#examples-guess\\_the\\_number\\_template.py](http://www.codeskulptor.org/#examples-guess_the_number_template.py)



Our

second project is to teach the computer how to play 'guess the number' with us. The computer chooses a number in a range, at random, and then allow us to take guesses of the chosen number. After each guess the computer will answer 'Higher', 'Lower' or 'Correct!' depending on whether the number that we are trying to guess is greater, smaller or equal to our guess. If we identify the number within a given number of tries, we win.

```
New game. Range is from 0 to 100
Number of remaining guesses is 7

Guess was 50
Number of remaining guesses is 6
Higher!

Guess was 75
Number of remaining guesses is 5
Higher!

Guess was 88
Number of remaining guesses is 4
Higher!

Guess was 95
Number of remaining guesses is 3
Lower!

Guess was 92
Number of remaining guesses is 2
Lower!

Guess was 90
Number of remaining guesses is 1
Higher!

Guess was 91
Correct!

New game. Range is from 0 to 100
Number of remaining guesses is 7
```

The GUI has a field to input our guesses, and two buttons to allow us to choose the range of the secret number, either from 1-to-100 or from 1-to-1000; the computer always starts using the 1-to-100 range.

### Writing our project:

1. Add to the template code a frame with an input field; the handler of this field should be called *input\_guess*.
2. Add the event handler *input\_guess(guess)* that takes the string *guess*, converts it into a number, and prints in the console a message in the form "Guess was 75".
3. Add code to the helper function *new\_game()* that initializes the global variable *secret\_number* to a random value in the range 1-to-100; this function is called at the bottom of the template before we start the game for the first time.
4. Add code to *input\_guess()* that compares the secret number with our guess and prints "Higher", "Lower", or "Correct!". If we guessed the number, a new game starts.
5. Set a global called *upper\_range* to 100 and use it in the selection of the secret number. Now create two buttons to allow us to select either 1-to-100 or 1-to-1000 range and then to restart the game.
6. In *new\_game()* create the global *remaining\_guesses* and set it to 7 if the range is 1-to-100, or 10 if the range is 1-to-1000. Subtract 1 from *remaining\_guesses* every time that we input a guess. If *remaining\_guesses* goes down to 0 your program should print "You ran out of guesses. The number was 92" (if *secret\_number* was 92), and then start again.