Warm Up

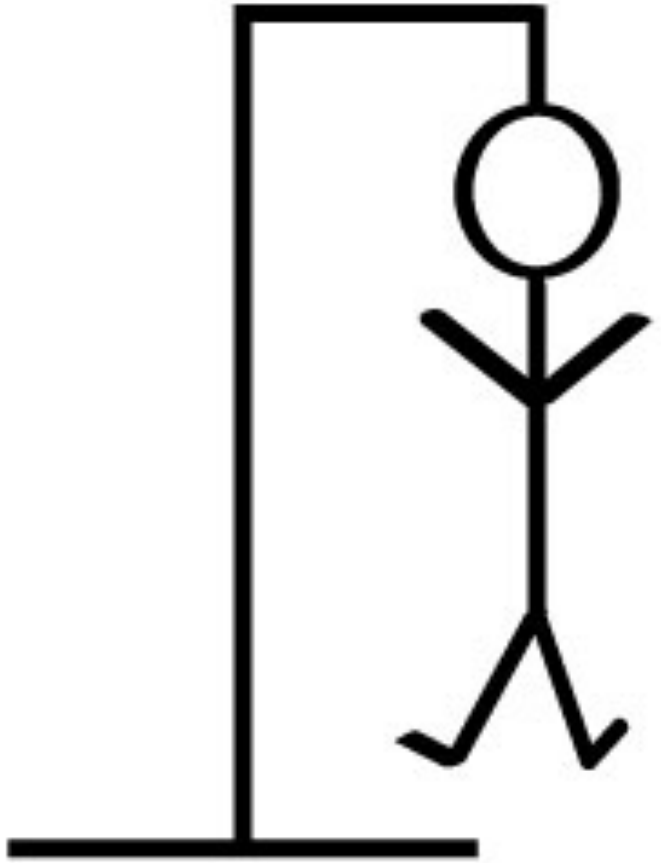
1. Open Python / IDLE
2. Challenge:
    1. Make a function or a loop that prints ”hello” until the user enters “stop”
    2. Example:

```
Output:
    >>> Enter something: “go”
    >>> hello
    >>> Enter something: “asdfasdf”
    >>> hello
    >>> Enter something: “stop”
    >>>
```

Coding Hangman

Hangman Rules

1. Someone choose a secret word, tells us how many letters in that word
2. Everyone else guess letters in that word
3. If a letter is not in that word, draw part of stick figure
4. If we guess the word before drawing a whole stick figure, we win!
   - If we draw a whole stick figure, everyone else loses!



How would we program Hangman in Python?

- What inputs do we need?
- What outputs do we need?

Steps:

1. Design the structure of our program
2. Write pseudocode / our plan
3. Write Python

Define the rules of the game

1. There is only one secret word
2. The player guesses one letter each turn
3. If the player guesses a letter in the secret word, all those letters in the word are revealed
4. If the player guesses a letter that is not in the secret word, no letters are revealed and a turn is deducted
5. If the player guesses all letters in the secret word before their turns are up, the player wins
6. If the player does not guess all the letters in the secret word before their turns are up, the player loses

Design the Program Structure

How are we going to approach this problem?

Two parts:

1. Initial Information
   - Get secret word
2. Loop
   - Get letter guesses from the player
   - check to see if that guess is in the secret letter

Pseudocode

- “Pseudocode” – Writing out in English what the program will do
- Helpful to understand how we will code something before actually doing it
- An outline of what we are going to code

Exercise: Writing Hangman Pseudocode

- Let’s try to write Hangman pseudocode together!

Pseudocode (simple)

1. Establish starting variables:
   Secret word
   number of turns
   letters already guessed
   whether game is finished or not
2. Loop: while game is not finished
   Get letter from player
   if letter is in the secret word:
       reveal all of those letters in the secret word
   else if the letter is not in the secret word:
       do not reveal any letters, and deduct a turn
   If player guesses word:
       player wins!
   else if turns are up and player does not guess word:
       player loses ☹

Let’s code it in Python!

- Start with the initialization

How does all this apply?

- Approaching problems ***systematically***
- Figuring out ***inputs*** and ***outputs***
- Breaking the problem down into smaller parts:
  - ***Modularization***