Today's Lesson

- Last Week's Code
- Guess the Number Game
- Rock Paper Scissors

Finishing Last Week's Code

Segments Change

```
~for index in range(len(segments) -1, 0, -1):
~~x = segments[index-1].xcor()
~~y = segments[index-1].ycor()
~~segments[index].goto(x,y)
```

More Segments Updating

```
~if len(segments) > 0:
~~x = head.xcor()
~~y = head.ycor()
~~segments[0].goto(x,y)

~move()
```

Reset If Hits Self

```
~for segment in segments:
~~if segment.distance(head) < 20:
~~~time.sleep(1)
~~~head.goto(0,0)
~~~head.direction = "stop"
```

Continue To Reset

```
~~~score = 0
~~~pen.clear()
~~~pen.write("Score: {} High Score: {}".format(score, high_score),
align="center",
~~~font=("Comic Sans MS", 24, "normal"))
~~~for segment in segments:
~~~~segment.goto(1000, 1000)
```

Continue To Reset

```
~~~del segments[ : ]
~~~score = 0
~~~delay -= 0.001
~~~pen.clear( )
~~~pen.write("Score: {} High Score: {}".format(score, high_score),
align="center", font=("Comic Sans", 24, "normal"))
```

Ending

```
~time.sleep(delay)
```

```
wn.mainloop()
```

Concepts Needed

- Random
  - Random.randint
  - Two Parameters: start, stop
- String Manipulation
  - [string name].lower()
  - [string name].upper()

- Input
  - User Input
  - input(text)

Guess the Number Game

Creating the Function

```
import random


def guess_the_number(start, stop):
~num = random.randint(int(start), int(stop))
~moves = 0
```

Asking for Number

```
~while True:
~~moves += 1
~~move = input("What do you think the number is?")
~~if num > int(move):
~~~print("Higher\n")
```

Ask If Giving Up

```
~~~while True:
~~~~giveup = input("Would you like to give up? (Y or N)")
~~~~if giveup.lower() == "y":
~~~~~return "You have given up"
~~~~elif giveup.lower() == "n":
~~~~~break
~~~~else:
~~~~~print("Hmm... I couldn't understand your answer. \n")
```

If Guess Is Smaller

```
~~elif num < int(move):
~~~print("Lower\n")
~~~while True:
~~~~giveup = input("Would you like to give up? (Y or N)")
~~~~if giveup.lower() == "y":
~~~~~return "You have given up"
~~~~elif giveup.lower() == "n":
~~~~~break
~~~~else:
~~~~~print("Hmm... I couldn't understand your answer. \n")
```

If Number Guessed

```
~~else:
~~~print("Congrats! You guessed the number in " + str(moves) + " turns. \n")
~~~break
```

Run the Program!

```
guess_the_number(input("Start: "), input("Stop: "))
```

Rock Paper Scissors Pt 1

Creation

```
import random


def rock_paper_scissors(x, computer = "off"):
~print("Welcome to Rock Paper Scissors.\n")
~wins = 0
~totalwins = 0
~if computer.lower() == "on":
```

Computer’s Choice

```
~for turn in range(1, x + 1):
~~computer_guess = random.choice(["rock", "paper", "scissors"])

~~while True:
~~~your_guess = input("What do you choose?")
```

Keep Asking For Input Until Valid Answer

```
~~your_guess = your_guess.lower()
~~if your_guess == "rock" or your_guess == "paper" /
or your_guess == "scissors":
~~~break
~~print "The computer choose", computer_guess
```

Check For Loss

```
~~if computer_guess == "rock" and your_guess == "scissors" or \
~~computer_guess == "paper" and your_guess == "rock" or \
~~computer_guess == "scissors" and your_guess == "paper":
~~~print("You lost :(")
~~~opwins += 1
~~~if turn == x + 1:
~~~~print("Next round! \n")
```

Check For Win

```
~~elif your_guess == "rock" and computer_guess == "scissors" or \
~~your_guess == "paper" and computer_guess == "rock" or \
~~your_guess == "scissors" and computer_guess == "paper":
~~~print("You won!")
~~~wins += 1
~~~if turn == x+ 1:
~~~~print("Next round! \n")
```

Check For Tie

```
~~elif your_guess == computer_guess:
~~~print("It is a tie... ")
~~~if turn == x+ 1:
~~~~print("Next Round!")
```