

# Building Brains

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# Telling your Robot What to Think

```
def yoyo():  
    forward(1, 2)  
    turnLeft(1, .7)
```

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```

```
yoyo()
```

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def yoyo():  
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```

```
yoyo()  
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```

# Telling your Robot What to Think

```
def yoyo():  
    forward(1, 2)  
    turnLeft(1, .7)  
  
for i in range(4):  
    yoyo()
```

# Python's **for** command

```
for VARIABLE in SEQUENCE:  
    COMMAND  
    COMMAND  
    ...
```

# Python's **for** command

```
for letter in "Hello":  
    print letter
```

# Python's **for** command

```
for letter in "Hello":  
    print letter
```

```
h  
e  
l  
l  
o
```



# Python's **for** command

```
for letter in "Hello":  
    print letter
```

```
for i in range(4):  
    print i
```

# Python's **for** command

```
for i in range(4):  
    print i
```

0

1

2

3

What is `range(4)`?

# What is range(4)?

```
>>> range(4)
```

# What is range(4)?

```
>>> range(4)  
[0, 1, 2, 3]
```

# What is range(4)?

```
>>> range(4)  
[0, 1, 2, 3]
```

New type: List

# For Command

- Used for doing things N times (where N is the argument to range)
- Used for doing something to each item in the sequence

```
for i in range(N):  
    dance()
```

```
for i in range(N):  
    beep(.5, 440 * N)
```

# Summary

- New type: “list”
- Lists and strings are both “sequences”
- New command: “for”
  - Used for doing things N times (where N is the argument to range)
  - Used for doing something to each item in the sequence