WELCOME TO

TECHNOVATION

Week 4 - October 15

MICHIGAN STATE UNIVERSITY

Agenda

- Icebreaker
- Lesson:
  - User Input Review
  - For Loops
- Coding challenges
- Standup
- Temperature Check

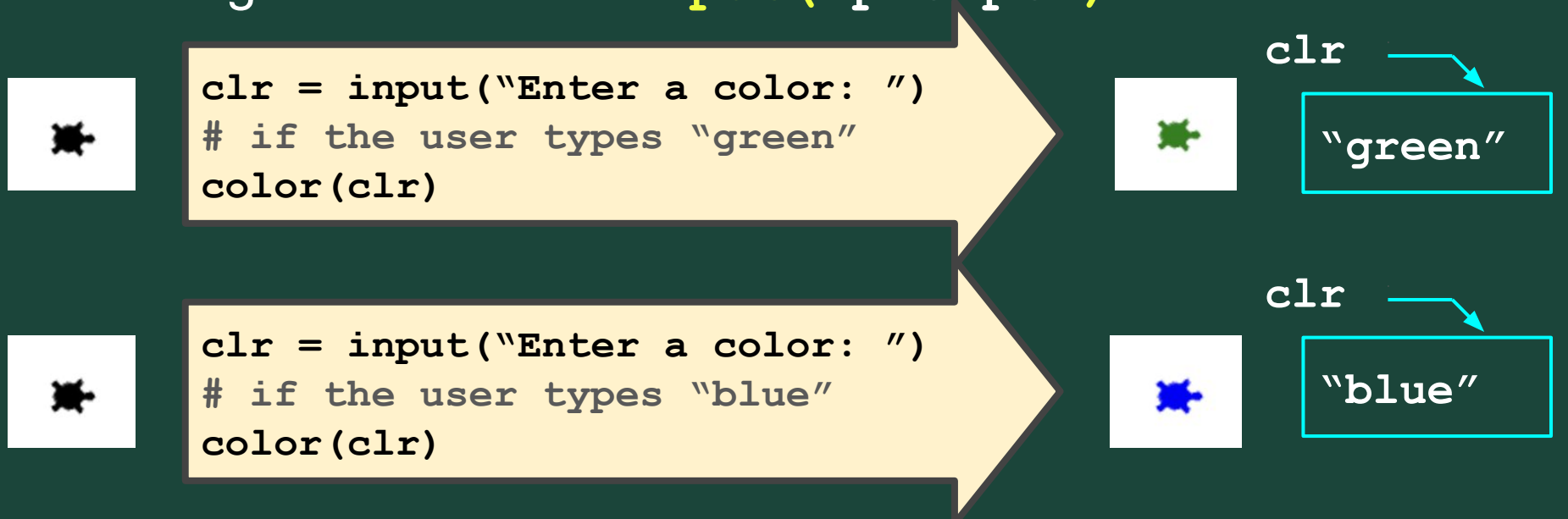
Ice Breaker!

Telephone Charades!

User Input (Text)

Variables can also be used to save *user input*, letting the user indicate values on-the-fly while running programs!

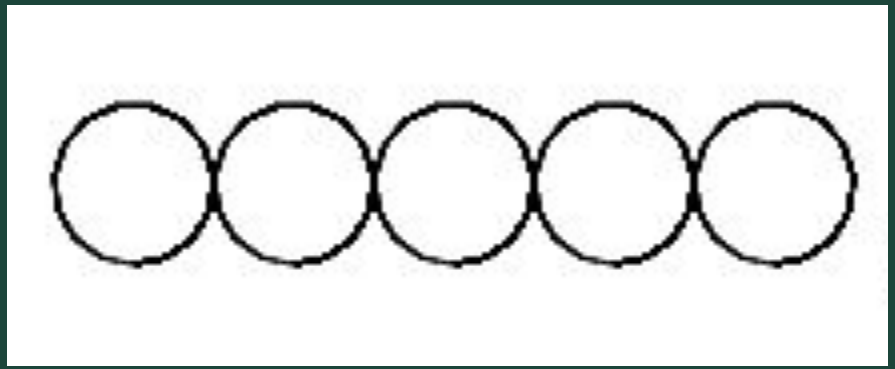
Use assignment with the `input("prompt")` function!



Introducing Loops!

```
1  circle(20)
2  penup()
3  forward(40)
4  pendown()
5  circle(20)
6  penup()
7  forward(40)
8  pendown()
9  circle(20)
10 penup()
11 forward(40)
12 pendown()
13 circle(20)
14 penup()
15 forward(40)
16 pendown()
17 circle(20)
18 penup()
19 forward(40)
```

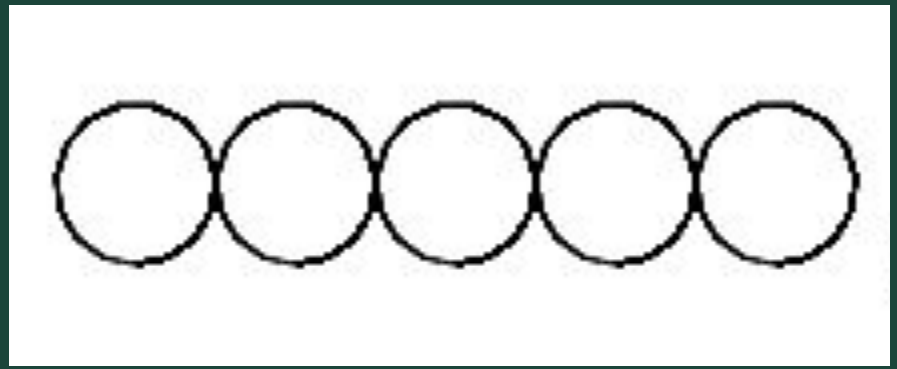
For loops are used to repeat code a fixed number of times.



Introducing Loops!

```
Tracy, repeat this code 5 times!
    circle(20)
    penup()
    forward(40)
    pendown()
```

For loops are used to repeat code a fixed number of times.



Introducing Loops!

```
1  circle(20)
2  penup()
3  forward(40)
4  pendown()
5  circle(20)
6  penup()
7  forward(40)
8  pendown()
9  circle(20)
10 penup()
11 forward(40)
12 pendown()
13 circle(20)
14 penup()
15 forward(40)
16 pendown()
17 circle(20)
18 penup()
19 forward(40)
```

For loops help us by:

- shortening our code
- making it easy to alter our code

19 lines to 5 lines!

```
1  Tracy, repeat this code 5 times!
2      circle(20)
3      penup()
4      forward(40)
5      pendown()
```

Introducing Loops!

```
1  circle(20)
2  penup()
3  forward(40)
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5  circle(20)
6  penup()
7  forward(40)
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11 forward(40)
12 pendown()
13 circle(20)
14 penup()
15 forward(40)
16 pendown()
17 circle(20)
18 penup()
19 forward(40)
```

For loops help us by:

- shortening our code
- making it easy to alter our code

Change radius to 50 pixels

```
1  Tracy, repeat this code 5 times!
2      circle(20)
3      penup()
4      forward(40)
5      pendown()
```

Writing For Loops

```
for i in range (amount of times to repeat):
    Commands to repeat go here (indented!)
```

```
1  Tracy, repeat this code 5 times!
2      circle(20)
3      penup()
4      forward(40)
5      pendown()
```

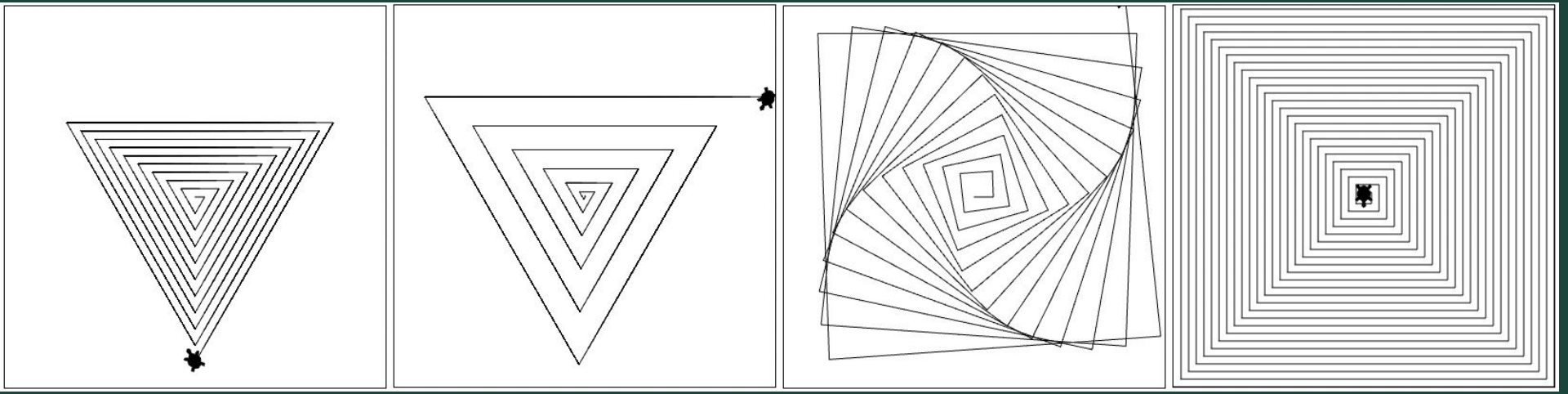
Write loop

```
1  for i in range(5):
2      circle(20)
3      penup()
4      forward(40)
5      pendown()
```

Coding Time

- Let’s use today to work on the exercises we haven’t been able to finish!
- Work at your own pace! Ask questions!
- If you are all caught up through (Unit 3 Section 1), explore the weekly challenges or the Sandbox in CodeHS

Challenges



Ready, Set, CODE!

Command	What does it do?
`name = value`	Saves the value in the variable
`input("prompt")`	Prints prompt and waits for user input
`int(...), float(...)`	Converts a value to a number (`int` or `float`)
`for i in range(number)`	Initialize a loop

Standup

- What was an exercise you worked on today?
- What is something you were successful at?
- What was a challenge you had while coding?

Bonus Hours!

Attendance and Temperature Check

Temperature Check