7.14. Exercises

4. In Robert McCloskey's book *Make Way for Ducklings*, the names of the ducklings are Jack, Kack, Lack, Mack, Nack, Ouack, Pack, and Quack. This loop tries to output these names in order.

Of course, that's not quite right because Ouack and Quack are misspelled. Can you fix it?

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Show in CodeLens

```
1
2 prefixes = ["J","K","L","M","N","Ou","P","Qu"]
3 suffix = "ack"
4
5 for p in prefixes:
6     print(p + suffix)
7
```

```
Jack
Kack
Lack
Mack
Nack
Ouack
Pack
Quack
```

Activity: 1 -- ActiveCode (ex6_11_1)

5. Get the user to enter some text and print it out in reverse order.

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Show in CodeLens

```
1 x = input("Enter something:")
2 x = x[::-1]
3 print(x)
```

```
elppa
```

Activity: 2 -- ActiveCode (ex6_11_2)

6. Question Answer Discussion

Write a program that uses a for loop to print

7.13. Glossary"> ossary">

7.15. Chapter Assessment">

```
One of the months of the year is January
One of the months of the year is February
One of the months of the year is March
```
etc ...

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Show in CodeLens

```
1
2 for month in ["January","February","March","April","May","June","July","August","Se
3     print("One of the months of the year is", month,)
4
```

```
One of the months of the year is January
One of the months of the year is February
One of the months of the year is March
One of the months of the year is April
One of the months of the year is May
One of the months of the year is June
One of the months of the year is July
One of the months of the year is August
One of the months of the year is September
One of the months of the year is October
One of the months of the year is November
One of the months of the year is December
```

Activity: 3 -- ActiveCode (ex_3_3)

7. Assume you have a list of numbers `12, 10, 32, 3, 66, 17, 42, 99, 20`
   a. Write a loop that prints each of the numbers on a new line.
   b. Write a loop that prints each number and its square on a new line.

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Show in CodeLens

```
1 # ["12","10","32","3","66","17","42","99","21"]
2 for x in [12, 10, 32, 3, 66, 17, 42, 99, 20]:
3     print(x)
4     print(x, x*x)
5
```

```
12
12 144
10
10 100
32
32 1024
3
3 9
66
66 4356
17
17 289
42
42 1764
99
99 9801
20
```

```
20 400
```

Activity: 4 -- ActiveCode (ex_3_4)

8. Write a program that asks the user for the number of sides, the length of the side, the color, and the fill color of a regular polygon. The program should draw the polygon and then fill it in.

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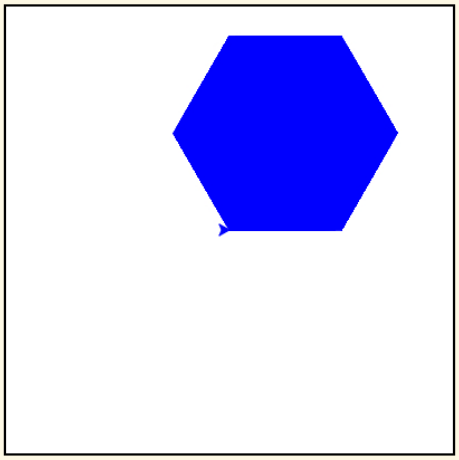
```
8     ace.color(str(c))
9     ace.forward(int(l))
10    ace.left(360/int(s))
11 ace.begin_fill()
12 ace.down()
13 for x in range(int(s)):
14    ace.forward(int(l))
15    ace.left(360/int(s))
16 ace.up()
17 ace.end_fill()
18 wn.exitonclick()
19
20
21
```



Activity: 5 -- ActiveCode (ex_3_6)

9. Question Answer Discussion

A drunk pirate makes a random turn and then takes 100 steps forward, makes another random turn, takes another 100 steps, turns another random amount, etc. A social science student records the angle of each turn before the next 100 steps are taken. Her experimental data is `160, -43, 270, -97, -43, 200, -940, 17, -86`. (Positive angles are counter-clockwise.) Use a turtle to draw the path taken by our drunk friend. After the pirate is done walking, print the current heading. Assume that the turtle originally has a heading of 0 and accumulate the changes in heading to print out the final. Your solution should work for any sequence of experimental data.

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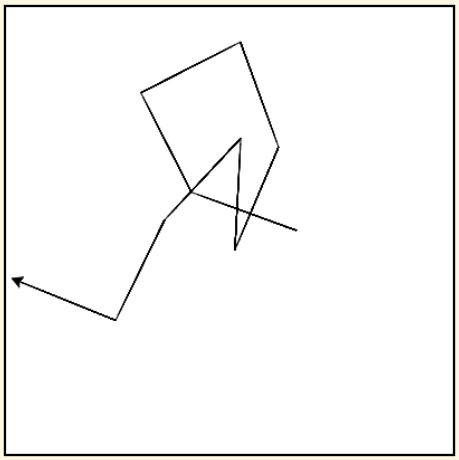
```
13 for angle in [160, -43, 270, -97, -43, 200, -940, 17, -86]:
14
15     # we use .left() so that positive angles are counter-clockwise
16     # and negative angles are clockwise
17     current_heading = (current_heading + angle) % 360
18     lovelace.left(angle)
19     lovelace.forward(100)
20
21 # the .heading() method gives us the turtle's current heading in degrees
22 print("The pirate's final heading was", current_heading)
23
24 wn.exitonclick()
25
```

```
26
```

```
The pirate's final heading was 158
```



Activity: 6 -- ActiveCode (ex_3_7)

10. iter-11-14: Write a program that will go through a list of temperatures and print them out to the user.

Drag from here

Drop blocks here

```
temperatures = [-3, 78, 95, 28, 56, 42, 56, 81, -10, -]
for temp in temperatures:
    print("The weather outside is: " + str(temp))
```

Check Reset

Perfect! It took you only one try to solve this. Great job!

Activity: 7 -- Parsons (pp_3_8)

11. iter-11-16: Write a program that will print out a greeting to each student in the list. This list should also keep track of how many students have been greeted and note that each time a new student has been greeted.

Drag from here

Drop blocks here

```
students = ["Jay", "Stacy", "Iman", "Trisha", "Ahmed", "Daniel", "Shadae", "Tosin", "Charlotte"]
num_students = 0
for student in students:
    print("Welcome to class, " + student)
    num_students += 1
    print(str(num_students) + "student(s) have entered the classroom")
```

Check Reset

Perfect! It took you only one try to solve this. Great job!

Activity: 8 -- Parsons (pp_3_9)

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