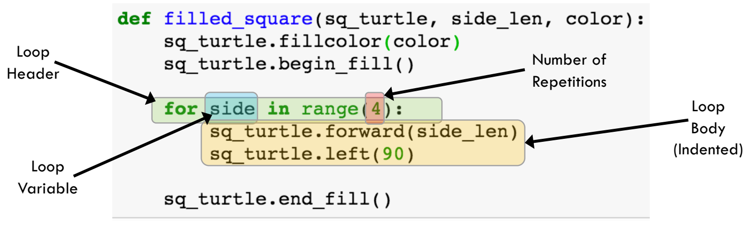
SIMPLE REPETITION

COMP130 – INTRODUCTION TO COMPUTING

DICKINSON COLLEGE

PYTHON'S SIMPLE FOR STATEMENT (LOOP)

- A ***simple `for` statement*** causes the statements in the ***loop body*** to be executed a specified number of times.



```
def filled_square(sq_turtle, side_len, color):
    sq_turtle.fillcolor(color)
    sq_turtle.begin_fill()

    for side in range(4):
        sq_turtle.forward(side_len)
        sq_turtle.left(90)

    sq_turtle.end_fill()
```

Loop Header

Number of Repetitions

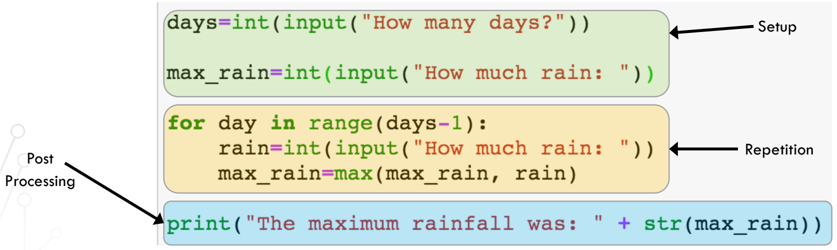
Loop Body (Indented)

Loop Variable

- The ***loop variable*** may be any valid variable name.
- The ***number of repetitions*** may be any expression that evaluates to an integer.
- The indented statements are contained in the ***loop body***.

LOOP PATTERNS

- It is sometimes helpful to think about what needs to be ***setup*** *before the loop*, what is ***repeated*** *in the loop* and what needs to be ***post-processed*** *after the loop*.



```
days=int(input("How many days?"))

max_rain=int(input("How much rain: "))

for day in range(days-1):
    rain=int(input("How much rain: "))
    max_rain=max(max_rain, rain)

print("The maximum rainfall was: " + str(max_rain))
```

Setup

Repetition

Post Processing