



SIMPLE REPETITION

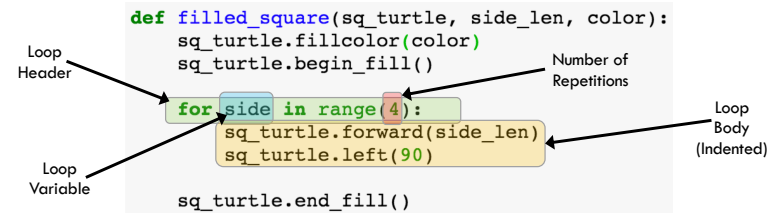
COMP130 – INTRODUCTION TO COMPUTING
DICKINSON COLLEGE



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()
```

The diagram shows a Python function `filled_square` that uses a `for` loop to draw a square. Annotations with arrows point to specific parts of the code:
- **Loop Header**: points to the `for` keyword.
- **Loop Variable**: points to the variable `side`.
- **Number of Repetitions**: points to the value `4` in `range(4)`.
- **Loop Body (Indented)**: points to the indented statements `sq_turtle.forward(side_len)` and `sq_turtle.left(90)`.
The `for` statement and its body are highlighted with a light green background.

- 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**.
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LOOP PATTERNS



- See the examples in **SimpleRepetitionExamples.ipynb**
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