CS 115 Lecture 10 Structured programming; for loops

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"Selection" means choosing which code to run based on some condition or question.

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Subprograms

Sometimes we may need to repeat the same combination of control structures in several different places.

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- Syntax: range(start, stop, step)
 - Instead of adding 1 in each iteration, adds step.
 - The first number is still start.
 - The next number is start + step, then start + 2*step, ...
 - What will this do?

```
for i in range(10, 25, 5):
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2	0	(50, 50)	—	
3	0	(50, 50)	(400, 50)	

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 - The previous point, and the new one.
- We'll have a loop where the user clicks on points.
 - Draw a line from the previous point to the new one.
 - No line for the first point.

- What do we need to draw a line?
 - Two points.
 - The previous point, and the new one.
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Flag variables

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- Often used with a loop, like an accumulator.
 - Set the flag to True or False before the loop.
 - Inside the loop, maybe set it to the opposite.
 - After the loop, check the flag's value.

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all_even = True # No exception yet
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    print("Every number was even.")
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• Remember, you must initialize the flag before the loop!

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Testing loops

How to test a loop?

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