

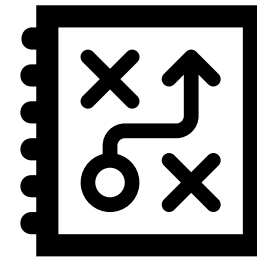
Conditions and Loops

Computing & Information Sciences

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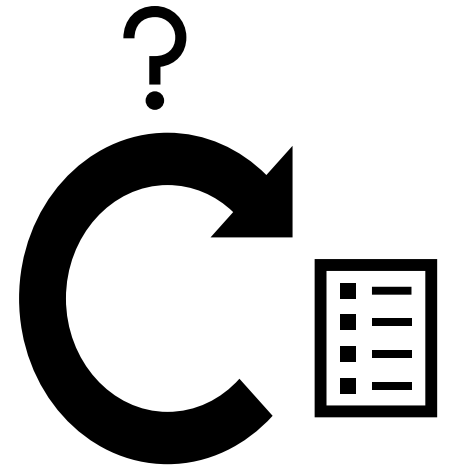
Logic conditions

- Test if a condition is true or false.
- Can combine many requirements.
 - OR, AND, XOR, NOT.
- Examples:
 - Program has reached a specific state.
 - User provides specific input.
 - File read contains specific value.



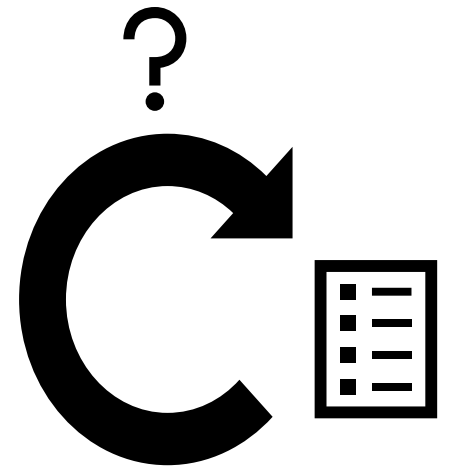
For loops

- Repeat instructions – fixed number of iterations.
 - Step through list – use each value.
 - Step through series of values.



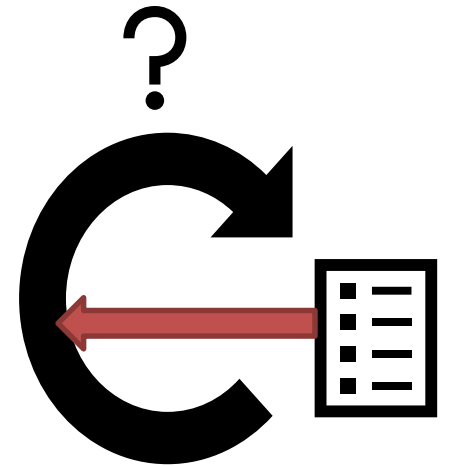
While loops

- Repeat instructions – unknown number of iterations.
 - Require logic condition to loop.
- Examples:
 - While user input has not been provided.
 - While specific state has not been reached.



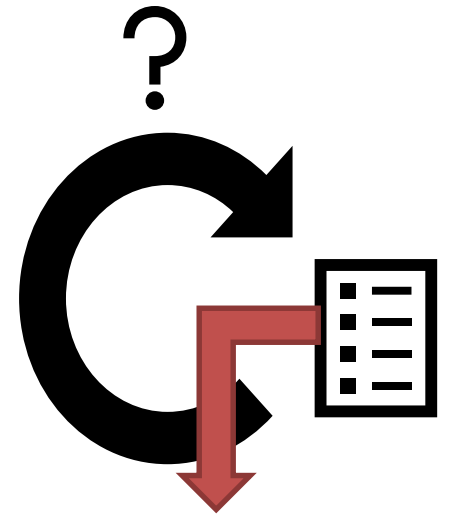
Using continue

- Skip to next iteration of the loop.
- Allows `if` to be used without `elif` or `else`.
 - Reduce nesting.
- Care needed with `while` loop.
 - Must update state and then continue.



Using break

- Exit a loop immediately.
 - Avoiding running the loop when not needed.
- Can use with `while True`.
 - Loop exit only through `break`.



Coding standards

- Compilers and interpreters permit different text input.
- Use a standard to enforce text formatting.
 - Enable developer to quickly identify code structure.
- Python coding standard – PEP8.
 - <https://www.python.org/dev/peps/pep-0008/>



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