CPSC 231 - Lab

LOOPS
Sometimes we need to do a job repeatedly as long as a specific condition is true.

We use loops for this kind of jobs.
Types of loops?

Simple loops: Keep going if the condition is true

Ranged-base loops: Do the job n times
Simple loop in python

```python
# count down
n = input("Enter count down number")
while n > 0:
    print(n)
    n -= 1
```
A wife calls her programmer husband and tells him "while you're out, buy some milk."

He never returns home.
How to stop a loop?

By voiding the condition:

```python
user_input = 'yes'  # do not forgot to define the variable
while user_input == 'yes':
    user_input = input('Do you want to continue? (yes/no)')
```
How to stop a loop?

Using break:

```python
while True:
    user_input = input('Do you want to continue? (yes/no)')
    if user_input != 'yes':
        break
```
NO INFINITE LOOPS!

While (not edge):
run()

While True:
run()
Range-base loops

For <variable> in <range>:
  <body>
Range function

\[ \text{range}(\text{start}, \text{end}, \text{step}) \]

Example:

\[ \text{range}(1, 10, 2) = [1, 3, 5, 7, 9] \]
\[ \text{range}(1, 10) = \text{range}(1, 10, 1) = [1, 2, 3, 4, 5, 6, 7, 8, 9] \]
\[ \text{range}(10, 1) = [] \]
\[ \text{range}(10, 1, -1) = [10, 9, 8, 7, 6, 5, 4, 3, 2] \]