

# Intro to Python

## Homework 4

### Problem 1

Write a program that takes in a base  $b$  and a power  $n$  and calculates the exponent  $b^n$  using a *while* loop. For a challenge, create a nested *while* loop that takes in new values for  $b$  and  $n$  and uses a *while* loop to calculate  $b^n$  until the user wants to stop.

### Problem 2

Write a program that prints the first 50 prime numbers using a *while* loop.  
(Hint: use the mod operator to check whether or not the number is prime)

### Problem 3

Create an addition game, using a *while* loop, that generates five questions for the user answer. Use two random numbers between 1 and 15 for each question. Print whether or not the answer is correct before asking the next question. At the end, print the total number of correct answers out of five.