

# COL100: Lab 3

January 16, 2017

## Part 1: Conditionals and Loops

Open a Python shell in terminal. Then, try out the following:

1. **Conditional:** *if, else, nested if-else*
2. **Loops:** *for, while*

Reference: [https://www.tutorialspoint.com/python3/python\\_decision\\_making.htm](https://www.tutorialspoint.com/python3/python_decision_making.htm)

## Part2: Programming Questions

1. Write a Python program to make a simple calculator that can add, subtract, multiply and divide two numbers. Take input from the user.
2. Write a Python program to find those numbers which are divisible by 11 and multiple of 13, between 1000 and 2000 (both included).
3. Write a program to find the Hardy–Ramanujan number.
4. Write a Python program to construct the following pattern, using a nested for loop

```
1
0 1
1 0 1
0 1 0 1
1 0 1 0 1
0 1 0 1
1 0 1
0 1
1
```

## Part3: Practice Questions

1. Write a program to find the factorial of a given number.
2. Write a Python program to compute the greatest common divisor (GCD) of two positive integers.
3. Write a program to convert a binary number into it's decimal form.
4. Write a Program to display the Fibonacci sequence up to n-th term where n is provided by the user.