# Lab: Syntax Rules, Conditions and Loops

Set 1 – Basic I/O and Calculations

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## Background

Syntax refers to the rules that define the structure of a programming language, including the structure of its symbols, punctuation and words. Without syntax, it would be impossible for programmers to understand one another’s code and programs.

## Instructions

Use a Python IDE to create a solution for the scenario presented in each question.

#### Student information

Write a program that asks a student to enter their first name, last name, age, GPA, and major. It should then print a welcome message and all the information as shown below:

Sample run: (inputs in bold underline)

Enter First Name: **Sammy**  
Enter Last Name: **Jones**  
Enter Age: **25**  
Enter GPA: **3.7**  
Enter Major: **SD**  
  
Welcome to CPRG216 Sammy Jones!   
Age 25, GPA 3.7, Major SD

#### Area and circumference of a circle

Write a program that computes both the circumference and the area of a circle for an entered radius. Let the results be printed to the screen as specified below. Variables should all be defined for **circumference**, **area** and **radius** in the program. Run the program and confirm that the correct results are printed. You can use the value 3.1415926 for Pi.  
  
Sample run: (inputs in bold underline)

Enter radius of circle (cm): **5**  
Circumference = 31.415926 cm  
Area = 78.539815 square cm

**Submission**

For each question, submit your Python source code (.py file) and your test results (.txt file containing output from the Terminal Window after running your Python program) to the Brightspace submission folder for this lab assignment.

# Reference

Linge, S. and Langtangen, H. P. (2020). Programming for computations – Python: A gentle introduction to numerical simulations with Python 3.6. (2nd ed.). Springer Open. ([CC BY-SA 4.0](https://creativecommons.org/licenses/by/4.0/deed.en)). Retrieved from https://library.oapen.org/viewer/web/viewer.html?file=/bitstream/handle/20.500.12657/23103/1007055.pdf