

# CS 104 - Homework 01



The deadline for this homework is Tuesday 12<sup>th</sup> of October 23:59:00. Please name your solution files as solution1.py, solution2.py etc. Once you're finished with the homework put all your solutions into a zip file called "cs104\_homework8.zip" and upload the file to LMS in order to complete the assignment.

1. (25 pts) Write a Python program which accepts the diameter of a circle from the user as command line argument, compute the area of the circle and print it to the screen.

2. (25 pts) Imagine we have a sequence of numbers as follows:

$$3, \frac{5}{2}, \frac{7}{4}, \frac{9}{8}, \frac{11}{16}, \dots$$

Write a program that prints  $n^{\text{th}}$  number in this sequence.

For example if  $n$  is set as 2, it will print 2.5, if  $n$  is set as 4 it will print 1.125 etc. Please demonstrate the printing of the program for  $n=5$ ,  $n=8$ ,  $n=11$ .

3. (25 pts) Write a program that tells how many digits there are in a number? For example it will print "2" for 89, "5" for 43201 etc.

Hint: In this question, you may need to use type conversion and built-in methods in Python.

4. (25 pts) Write a program that prints the following image.

