CSC148-Section:L0301

Week#1-Friday

Instructed by

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Office hours: Wednesday 11-1, BA2230.

Slides adapted from Professor Danny Heap and Jacqueline Smith slides winter17

Computer Science
UNIVERSITY OF TORONTO

Outline

- Introduction and Course Logistics
- Objects

Course Information

- **Course Webpage**
  - http://www.cdf.utoronto.ca/~csc148h/winter/

- **Information Sheet**
  - http://www.cdf.utoronto.ca/~csc148h/winter/courseinfo.pdf

Do I need CSC108 for CSC148?

- **You should be familiar with general programing concepts.**
  - **We expect that you know the concepts in CSC108 such as:**
    - if statements, loops, function definitions and calls, lists, dictionaries, searching, sorting, classes, documentation style.
  - **IF not sign up for ramp-up session *THIS WEEKEND*:**
    - https://doodle.com/poll/2arm5xn44zxn7zda
    - Saturday, January 6, 10am - 4pm
    - Or Sunday, January 7, 11am - 5pm
    - If you took CSC108 and did well you will not need the ramp-up session.
      - As slides **will be posted** on the course webpage.

What's CSC148 about?

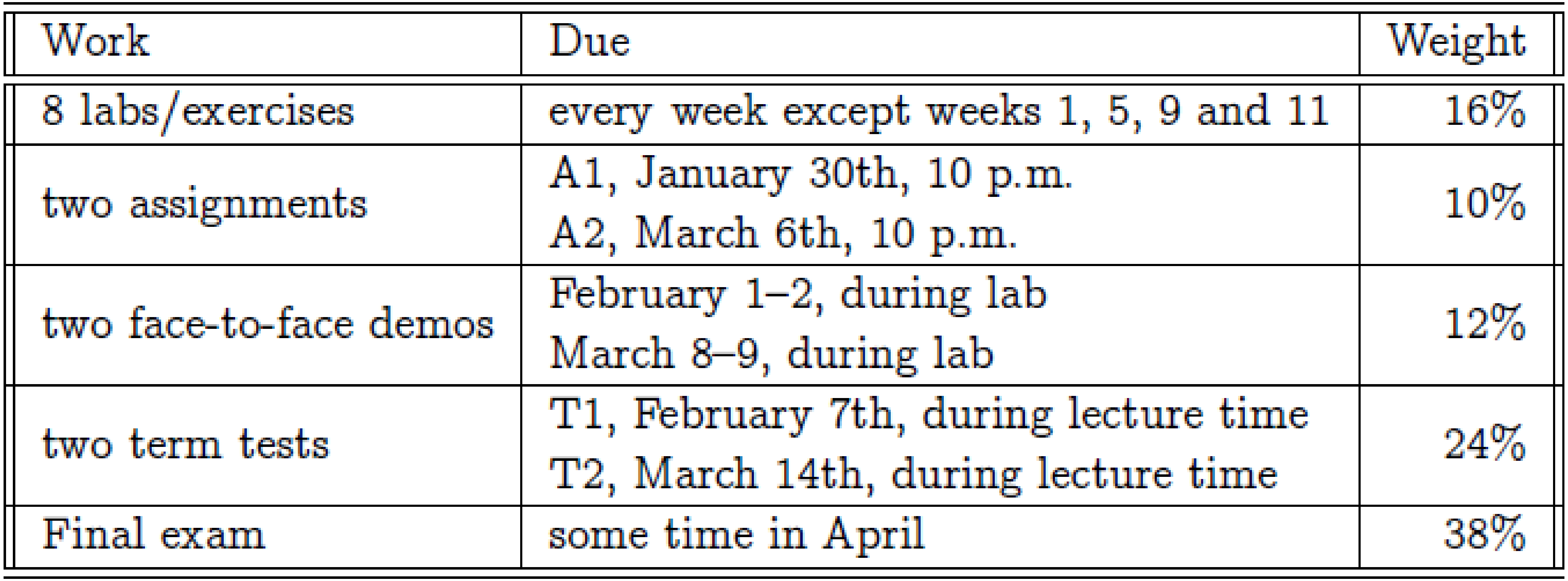
- **How to Understand and Write a solution for a real-world problem**
  - Problem in English-> write a solution in Python
- **A**bstract **D**ata **T**ypes (**ADT**s) to represent and manipulate information
  - You have used built-in data types such as: int, str, bool
  - Now, create your own datatypes to:
    - Hide info/algorithm
    - Share with other using public interfaces and documentation
- **Recursion:** **Clever** functions that call **themselves** in their definition
- **Exceptions:** how to deal with unexpected situations
  - Learn how to write/read/use exceptions in python
- **Design:** how to structure a program to be easily fixed and maintained by
  - Making excellent documentation
  - Well organized code
- **Efficiency:** know and control how much resources: time and space your code consumes

Textbook and Computing

- We'll **provide slides** and **links to readings online** relevant to our weekly topics

- By virtue of registering in this course, you will have a **Teaching Labs account**
  - it is **vitally important** that you **set it up** so that you are **able to log in**.
  - **Gives you access** to computing **resources** both remotely and within the Bahen building
  - Allows you to **submit course work**.

Marking scheme



Work	Due	Weight
8 labs/exercises	every week except weeks 1, 5, 9 and 11	16%
two assignments	A1, January 30th, 10 p.m. A2, March 6th, 10 p.m.	10%
two face-to-face demos	February 1–2, during lab March 8–9, during lab	12%
two term tests	T1, February 7th, during lecture time T2, March 14th, during lecture time	24%
Final exam	some time in April	38%

Marking scheme

- Designed to place a relatively **low weight (38%) on the final exam**
- We aim **to give higher weight** to your **better work**.
  - For example, the weights of your two assignments sum to 10%, so we'll give the best one a weight of 6% and the worst a weight of 4%.
  - Read the course information sheet for more details.
- In addition to the other requirements, must you **achieve 40%** of the marks on **the final exam** in order **to pass** this course.

Re-marks

- It **is very important to us** that your work is **evaluated correctly**, and that occasionally **includes re-marking work** to see whether we agree with the original grading.
- **How?**
  - All re-mark requests must be **submitted on MarkUs within 7 days** of when the relevant work is handed back.
  - Use **MarkUs** to request re-marks.
  - We **promise to consider** the request before we submit grades at the end of the course, but we cannot guarantee earlier than that.

Lateness, sickness, natural disasters

- We discourage late work since we have to
  - arrange in advance for **grading** it
  - we want to be able **to discuss solutions** soon after the assignment is due, while it is **still fresh in everyone's minds**.
- Late assignments will be penalized at the rate of 5% per hour
- **If you have special circumstances:**
  - please **contact us immediately** (usually before the work is due)
  - fill out the "**Request for special consideration**,"
  - provide all **supporting documentation**
- We will do our best to ensure that **your evaluation is not harmed** by events that are not your fault.

Independent work

- Be sure to **give** full and generous **credit to any person or book** (except course instructors and teaching assistants) you consult in solving assignments. If you take notes when you consult a source, quote that source in full.
- Do **NOT** look at similar work by other students, in written or electronic form, since looking can easily **turn into plagiarism**
- Do **NOT** show your own assignments **to other students**
- **You can discuss general ideas but**
  - Take **a couple of hours' break** before writing it up.

Email, piazza

- **Use Piazza**
  - for **questions** and **answers** that don't reveal the details of assignments. You may use piazza in "demo" mode if you do not wish them to have access to your email.

- **Use Email:**
  - If you have a question that can't be raised on piazza and is suitable for email, **BE SURE TO INCLUDE**
  - in the **Subject**: "CSC148," and something about your question,.
  - in the **Signature**:
    - your **full name** your **student ID**(full name is not enough, some students have the same full name)

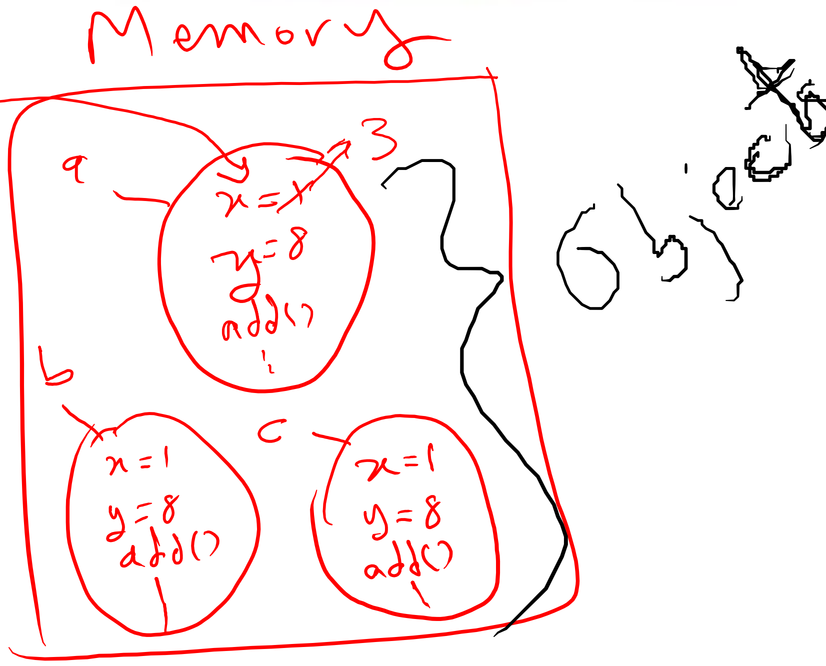
Objects

File

```
class A
    x=1
    y=8
    add()
    get_x()
    set_x(x)
```

class

```
>>> a = A()
>>> b= A()
>>> c = A()
>>> b.set_x(3)
>>> c is a
False
>>> b is a
False
```

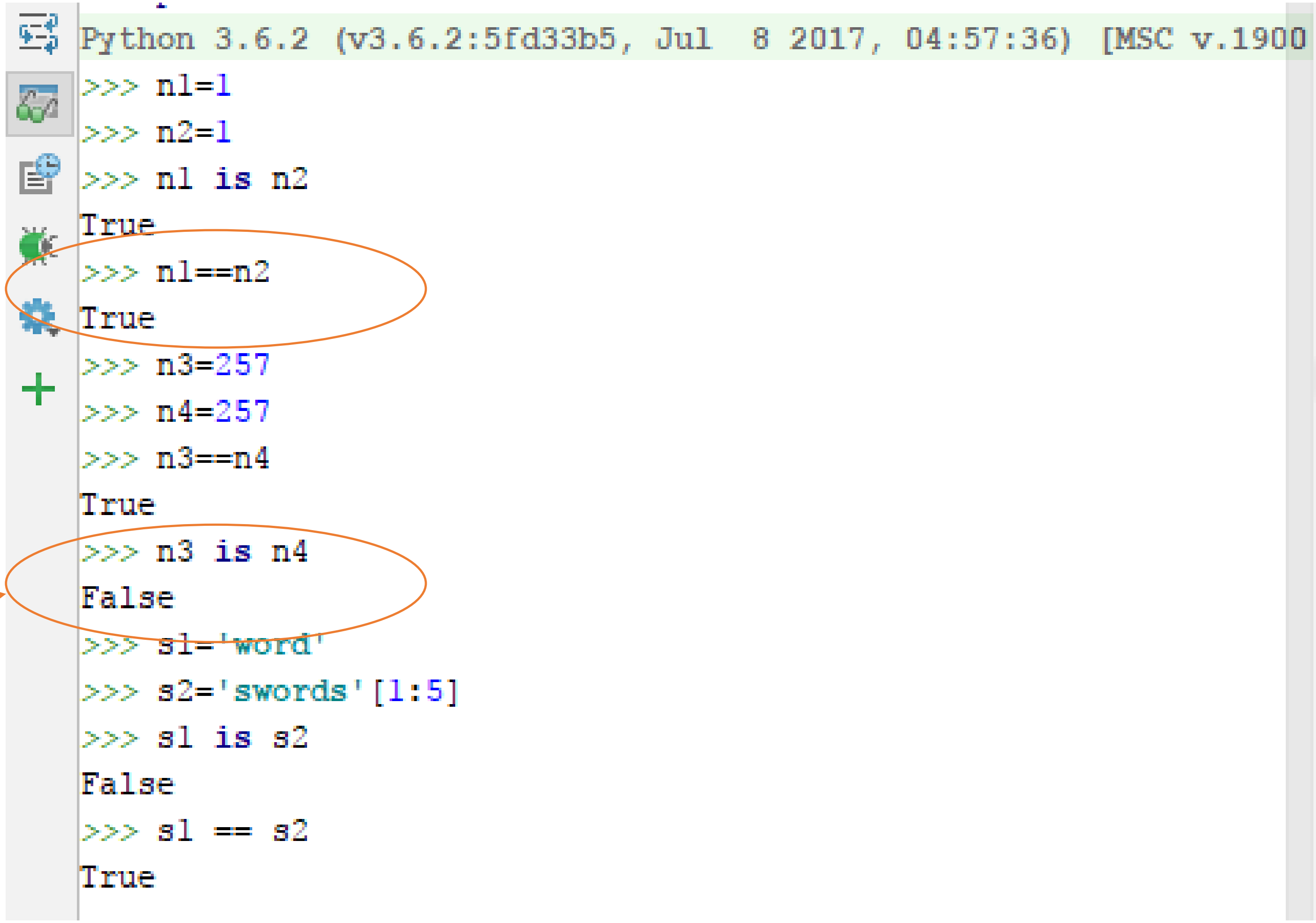


Objects

- Here are some built-in objects to fool around with:

```
>>> w1 = "words"
>>> w2 = "swords"[1:]
>>> w1 is w2
False
>>> import turtle
>>> t = turtle.Turtle()
>>> t.pos()
(0.00,0.00)
>>> t.forward(100)
```

Objects



```
Python 3.6.2 (v3.6.2:5fd33b5, Jul  8 2017, 04:57:36) [MSC v.1900
>>> n1=1
>>> n2=1
>>> n1 is n2
True
>>> n1==n2
True
>>> n3=257
>>> n4=257
>>> n3==n4
True
>>> n3 is n4
False
>>> s1='word'
>>> s2='swords'[1:5]
>>> s1 is s2
False
>>> s1 == s2
True
```

Why??

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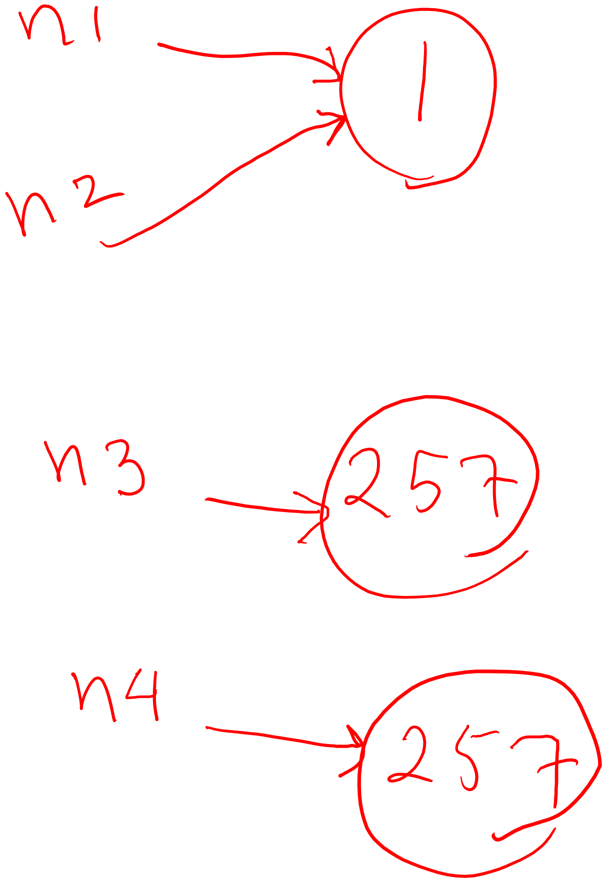
Objects



if integer > 256
Python creates
a new object