

---

Specification for Assignment 2 of 4

Your **submission** for this assignment will have **both a written component and a programming component**. The former **must be a single pdf document** that uses the filename '**comp1501\_w18\_#####\_a2\_report.pdf**' and the latter must include at least one Python 3 source file that uses the filename '**comp1501\_w18\_#####\_a2\_source.py**'.

These files **must be compressed into a "zip" file** and uploaded to cuLearn before the deadline.

**Late assignments will not be accepted and will receive a mark of 0.**

---

**The due date for this assignment is Saturday, February 17, 2018, by 11:00 pm.**

---

For this assignment, you will take the a "toy" program, provided to you through cuLearn, and build upon it to create a game without changing the core mechanic that has been provided. The core mechanic is a line (divided into segments and gaps) rotating around a point, against which a circular hitbox could collide. To this you must add additional mechanics and then experiment with the upgraded toy in order to discover the dynamics (i.e., find the "fun"). As a final step, you will need to add several aesthetic components (including game sprites and elements of fiction).

Please also note the following:

- In the toy you have been provided, the game data is stored as two dictionaries – one for a rotating line and one for a circular hitbox – but it is not necessary for you to store your game data in this manner. Feel free to use lists, dictionaries, classes, etc. for storing your game data (but try to avoid the use of global variables).
- Although you must not remove the core mechanic provided (and it must remain a significant component of the gameplay), you are expected to modify it somewhat (e.g., by changing or randomizing the point around which the line rotates, the number and size of the gaps in the line segment, the radius of the hitbox, rotational velocity of the line, etc.). You are also free to add additional mechanics (e.g., other moving game objects, etc.)
- One of the elements that you must add is a way for the player to provide input (e.g., for controlling or otherwise affecting the circular hitbox and/or the rotating line). Do not add support for controls that you don't use (i.e., if your game doesn't use the mouse then you should not attempt to access the mouse button states, cursor position, etc.)

*(the requirements continue below)*

- Your final product must include game sprites and at least some of these sprite images must be rotated using the transform module of pygame. Functions for sprite rotation are documented at: <https://www.pygame.org/docs/ref/transform.html>. Please also recall that only assets (e.g., images, sounds, etc.) that are in the public domain can be used for your submissions in this course.
- Please also note that the game you create, although small in scope, is expected to be fun and polished. Meeting the minimum requirements detailed above does not entail that you will receive any particular minimum grade.

For the written component of this assignment you will write a report of no less than 600 words and no more than 1800 words, describing how you have transformed the "toy" into an actual game. Just like your first assignment, this component must be written in complete sentences, and a "point-form" discussion will not be accepted and will receive a mark of zero.

Your report must thoroughly address each of the following points in separate sections that have been organized by headings. You may also add additional sections as warranted.

1. Focus Sentence

Write a single sentence that accurately describes your proposed game. Briar Lee Mitchell (Game Design Essentials, 2012) suggests that answering the following four sentences can help in the process of writing a focus sentence:

Who is the main character?

What does this character want?

What is going to try and stop the main character?

What about the game is unique and compelling?

2. Gameplay Overview

Write at least two paragraphs to describe the gameplay of your game. Make sure you address each of the defining elements of a game (i.e., goals/rules/choices/fiction).

3. Fun

Write several paragraphs addressing how each of the different types of fun (as described in Mark Leblanc's taxonomy of fun) is included in your game. If your game contains fewer than five of the different "game pleasures" then you should consider adding additional elements.