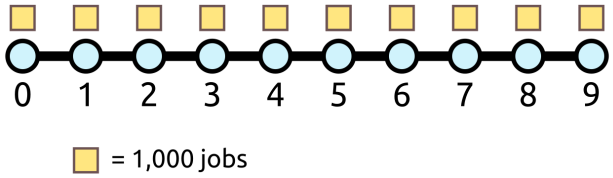
Due February 11 at 11:59pm

Part 1: Transit Routes

???

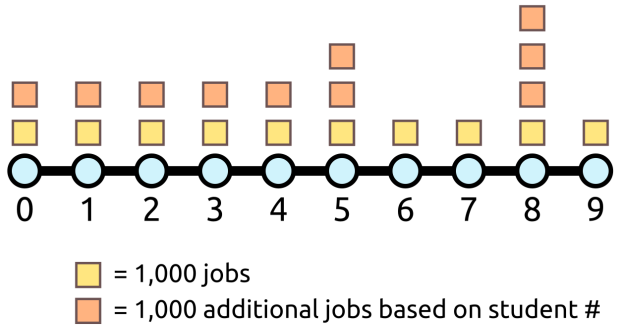
Part 2: Conceptualizing Accessibility

Consider a city with 10 neighbourhoods, each with 1,000 jobs, that are connected with a single transit line. Assume that the travel time between each adjacent stop is **10 minutes** and that the headway is **2 minutes**.



The city has grown recently, use your student number to distribute where employment growth is located in the city. Do this by allocating 1,000 additional jobs to each neighbourhood for each digit in your student number.

For example, if your student number is 2013455888, then the distribution of jobs in the city would be as follows:



Answer the following questions based on your student number:

A). If you live in neighbourhood **0**, how many jobs can you reach in less than or equal to a **45** minute transit trip?

B). Using this travel time threshold (**45** minutes), which neighbourhood(s) has the greatest level of accessibility to jobs?

C). The city is planning to build a high speed express route to directly connect neighbourhood **0** and neighbourhood **9** in only **30** minutes (it will also have a headway of **2** minutes). If you still live in neighbourhood **0**, how many jobs will you then be able to access in a **45** minute trip?

Part 3: Computing Accessibility

Given OD matrix of census tracts

Measure access to jobs in 45 minutes

Create a map of transit accessibility to jobs overlaid with the line and point files of subway lines and stops.

Part 4: Mapping Cycling

Cycling mode share for journey to work trips. In `data.zip`, there are geojson files for bicycle infrastructure and bikeshare stations.

A). What is the CTUID and mode share % for the neighbourhood with the greatest cycling mode share for journey to work trips. (1 mark)

B). Create a map with bicycle infrastructure and bike-share stations overlaid on top of a choropleth map of cycling mode share by census tract. (4 marks)

C). Describe in 2-4 sentences the patterns between the layers. Where in the city (2 marks)