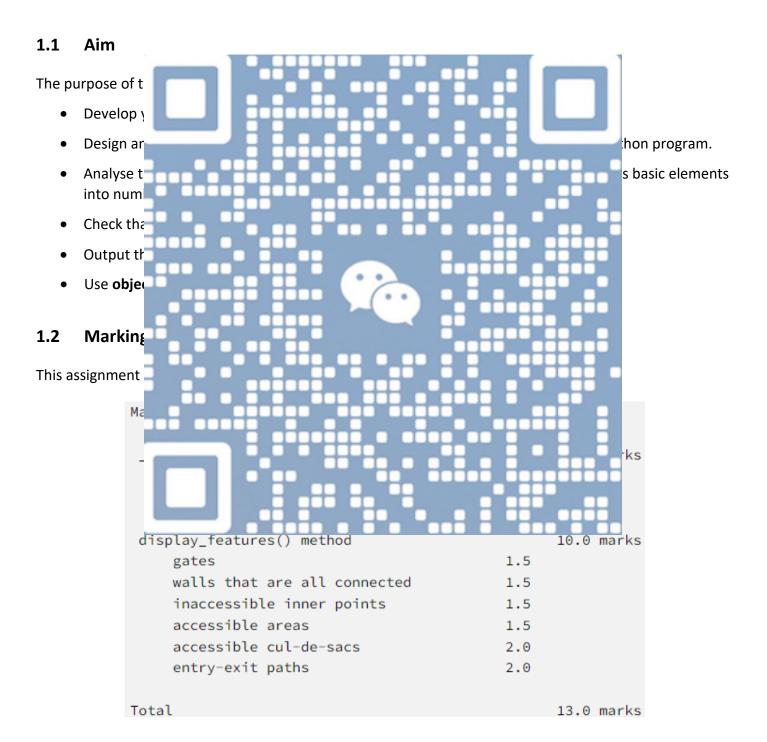
COMP9021 Principles of Programming Term 2, 2024

Assignment 2

Worth 13marks and due Week 11 Monday @ 10am

1. General Matters



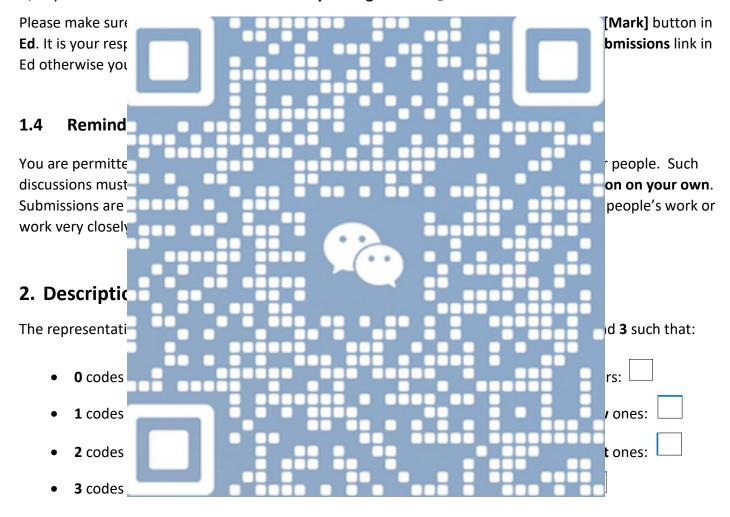
Your program will be tested against several inputs. For each test, the auto-marking script will let your program run for **30 seconds**. The outputs of your program should be **exactly** as indicated.

1.3 Due Date and Submission

Your programs will be stored in a file named **labyrinth.py**. The assignment can be submitted more than once. The last version just before the due date and time will be marked (unless you submit late in which case the last late version will be marked).

Assignment 2 is due Week 11 Monday 5 August 2024 @ 10:00am (Sydney time).

Please note that **late** submission with **5% penalty per day** is allowed **up to 5 days** from the due date, that is, any late submission after **Week 11 Saturday 10 August 2024 @ 10:00am** will be discarded.



A point that is connected to none of their left, right, above, and below neighbours represents a pillar:

Analysing the labyrinth will also allow to represent:

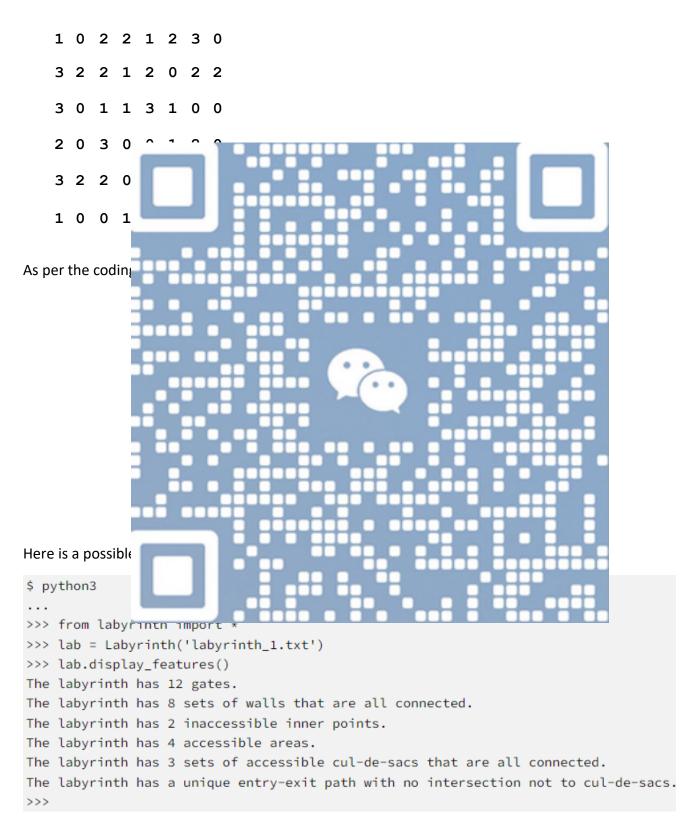
• cul-de-sac: X

• entry-exit path: ---

3. Examples

3.1 First Example

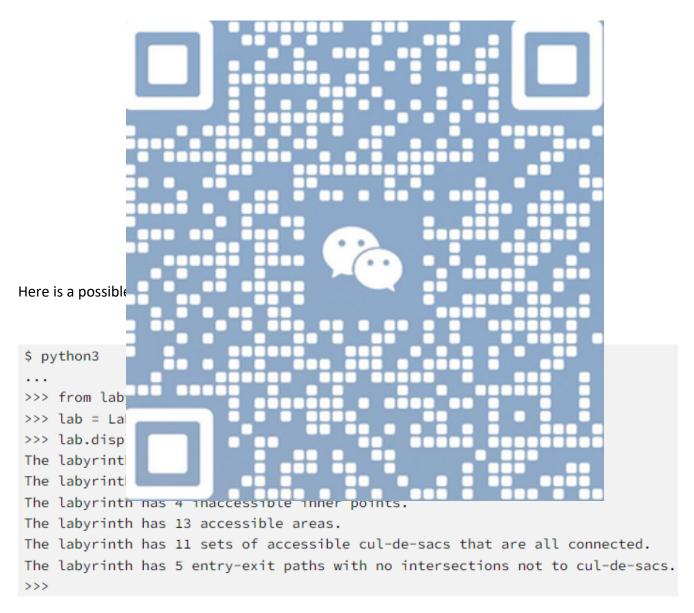
The file named labyrinth_1.txt contains the following:



3.2 Second Example

The file named **labyrinth_2.txt** contains the following:

As per the coding above, labyrinth_2.txt will look like the following:



3.3 Third Example

The file named **labyrinth_3.txt** contains the following:

```
3111111132
      21122131202
      33023022112
      20310213122
      31011120202
      21230230112
      30223031302
      03122121212
      222031
      221103
      111111
As per the coding
Here is a possible
$ python3
. . .
>>> from labyrinth import *
>>> lab = Labyrinth('labyrinth_3.txt')
>>> lab.display_features()
The labyrinth has 2 gates.
The labyrinth has 2 sets of walls that are all connected.
The labyrinth has no inaccessible inner point.
The labyrinth has a unique accessible area.
The labyrinth has 8 sets of accessible cul-de-sacs that are all connected.
The labyrinth has a unique entry-exit path with no intersection not to cul-de-sacs.
>>>
```