

VIET NAM NATIONAL UNIVERSITY HO CHI MINH CITY
HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY
FACULTY OF COMPUTER SCIENCE AND ENGINEERING



Course name h

Report type h

Report title h

Advisor: Advisor h

HO CHI MINH CITY, OCTOBER 2022



Member list & Workload

No.	Full name	Student ID	Percentage of work
1	h	xxxxxxx	100%



Contents

1	Normal section	4
2	Better tables	5
3	Better enumerator	6
4	Codeblocks	7
5	Figures with flexible width	8



1 Normal section

This is how you normally work with L^AT_EX, but you can also split a project into smaller files for easier management. To import other files, you can use `\input{}` or `\include{}`. There differences can be found at <https://tex.stackexchange.com/a/250>, but in short

```
\include{filename} = \clearpage \input{filename} \clearpage
```



2 Better tables

The recommended way is by using the booktabs package and drop all vertical rules.

Tabularx is simply tabular but with X environment, meaning that it will try to use all of `\linewidth`.

	OOP	FP
Pros		
Cons		

More information can be found at <https://latex-tutorial.com/tables-in-latex/>.



3 Better enumerator

Normal enumerator gets the job done, but what if you want custom numbering? This implementation allows custom labeling, either by pre-defined rules or in-place.

a.yeah First item

b.yeah Second item

custom Third item

4 Codeblocks

There are several ways to embed code in a \LaTeX file. Here I demonstrate inline code, embedded codeblocks, and external import.

This version of embedded code uses a custom environment defined in the main file. You can expand this environment instead of using `code` as well.

```
1  class iostream:
2      def __lshift__(self, other):
3          print(other, end='')
4          return self
5
6      def __repr__(self):
7          return ''
8
9
10 if __name__ == "__main__":
11     cout = iostream()
12     endl = '\n'
13     cout << "Hello" << ", " << "World!" << endl
```

```
1  class iostream:
2      def __lshift__(self, other):
3          print(other, end='')
4          return self
5
6      def __repr__(self):
7          return ''
8
9
10 if __name__ == "__main__":
11     cout = iostream()
12     endl = '\n'
13     cout << "Hello" << ", " << "World!" << endl
```

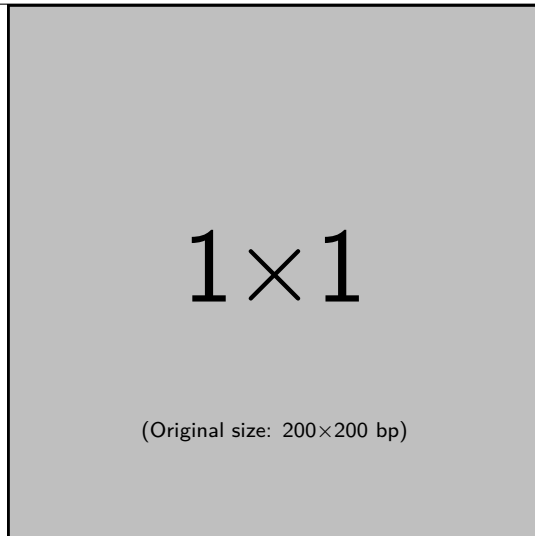
You can also define your custom inline as <https://tex.stackexchange.com/a/148479>.

This is one way to input algorithms.

- 1 Initialize Q -table values ($Q(s, a)$) arbitrarily;
- 2 Initialize a state (s_t);
- 3 Repeat Steps 4 to 6 until learning period ends;
- 4 Choose an action (a_t) for the current state (s_t) using an exploratory policy;
- 5 Take action (a_t) and observe the new state ($s_t + 1$) and reward ($r_t + 1$);
- 6 Update Q -value;

Algorithm 1: QL algorithm

5 Figures with flexible width



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

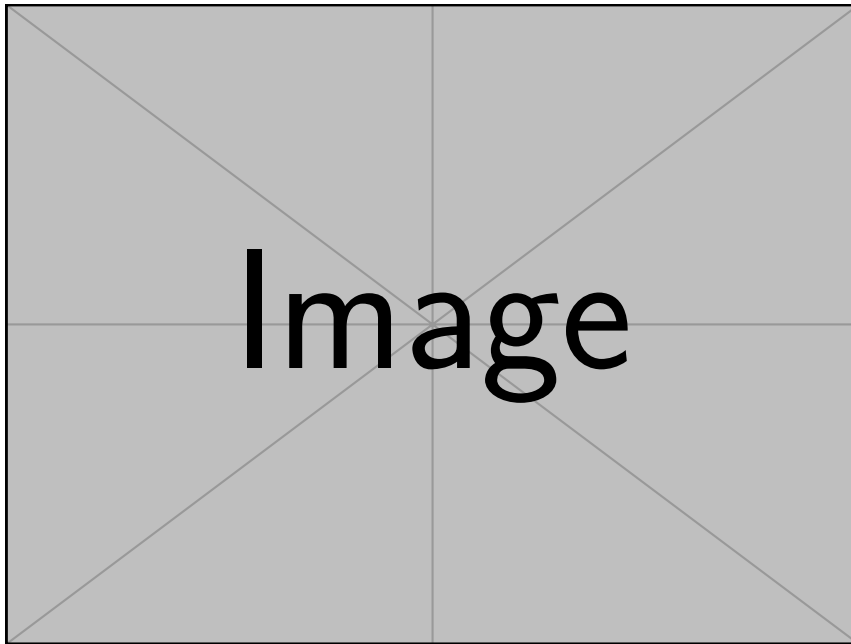
Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetur adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultrices tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetur.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultrices auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultrices non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

With `\adjincludegraphics` (or `\adjustimage`) you can also use the original width as `\width`:





References

- [1] Donald E. Knuth. Literate programming. *The Computer Journal*, 27(2):97–111, 1984.
- [2] Donald E. Knuth. *The T_EX Book*. Addison-Wesley Professional, 1986.
- [3] Leslie Lamport. *L^AT_EX: a Document Preparation System*. Addison Wesley, Massachusetts, 2 edition, 1994.
- [4] Michael Lesk and Brian Kernighan. Computer typesetting of technical journals on UNIX. In *Proceedings of American Federation of Information Processing Societies: 1977 National Computer Conference*, pages 879–888, Dallas, Texas, 1977.
- [5] Frank Mittelbach, Michel Gossens, Johannes Braams, David Carlisle, and Chris Rowley. *The L^AT_EX Companion*. Addison-Wesley Professional, 2 edition, 2004.