

EECS 4314 - Bit Theory Architecture Report

Amir Mohamad
amohamad@my.yorku.ca

Arian Mohamad Hosaini
mohama23@my.yorku.ca

Dante Laviolette
dantelav@my.yorku.ca

Diego Santosuosso Salerno
nicodemo@my.yorku.ca

Isaiah Linares
isaiah88@my.yorku.ca

Misato Shimizu

Muhammad Hassan
furquanh@my.yorku.ca

Yi Qin
aidenqin@my.yorku.ca

Zhilong Lin
lzl1114@my.yorku.ca

York University

January 31, 2023

Abstract

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. 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.

Keywords— keyword1, keyword2, keyword3

Contents

1	How to use \LaTeX	4
1.1	Basics	4
1.2	Pseudocode	4
1.3	Insert Images with Figures	5
1.4	Lists	5
2	Section	5
2.1	SubSection	5
2.1.1	SubSubSection	5

1 How to use L^AT_EX

1.1 Basics

bold text dolor sit amet. Inline math $\sum_0^{\text{inf}} x$. Bold inline math $\sum_0^{\text{inf}} \mathbf{x}$ consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. *Emphasized text.* **Emphasized bold text** 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 refering to code `JavaClass.java`. `BoldJavaClass.java` 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. Update tutorial file. ISALAH CHANGE Block equations:

$$\int_{\alpha}^{\beta} f'(x) dx = f(\beta) - f(\alpha). \quad (1)$$

We can use the fundamental theorem of calculus to say that $\int_2^3 x^2 dx = \frac{3^3}{3} - \frac{2^3}{3} = \frac{19}{3}$. Also note that $\int_2^3 x^2 dx = \frac{3^3}{3} - \frac{2^3}{3} = \frac{19}{3}$. We can also give this equation its own line

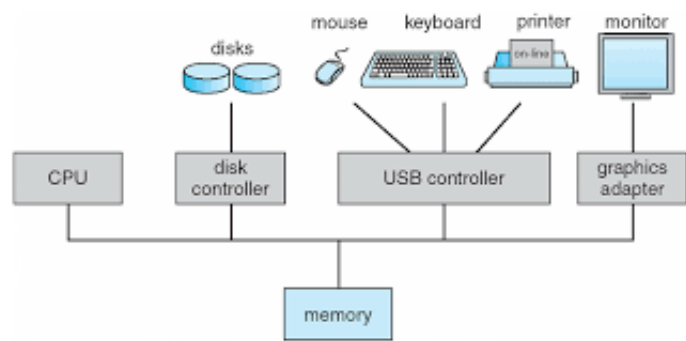
$$\int_2^3 x^2 dx = \frac{3^3}{3} - \frac{2^3}{3} = \frac{19}{3}.$$

1.2 Pseudocode

```
1 precond graph1 and graph2 [(i1,j1),...,(ik≤m,jk≤m)]
2 precond graph1.length = k1
3 precond graph2.length = k2
4 precond n is number of nodes
5 precond m is max number of edges
6 precond p >= n2
7 precond graph[k].ij is the integer concat of edge k:(i,j)
8
9 fun isSubGraph(graph1,graph2)
10   precond h:edge (i,j):ij ∈ ℤ → k ∈ 0,...,m-1
11   let h be the hash function defined by h(x) = (x mod p) mod m
12   let B[0...m-1] be an array of linked lists; initially all lists are empty
13
14   // we will hash the second graph
15   for k ← 0...graph2.length
16     iterate across B[h(graph2[k].ij)] looking for graph2[k].ij
17     if found, stop and throw error
18     else append graph2[k].ij to the list B[h(graph2[k].ij)]
19     end if
20   end for
21
22   // loop graph1 edges and return false if edge not in B
23   for k ← 0...graph1.length
24     iterate across B[h(graph1[k].ij)] looking for graph1[k].ij
25     if found, continue
26     else return false postcond graph1 is not a subgraph
27     end if
28   end for
29
30   postcond B contained all the edges of graph1
31   return true
```

1.3 Insert Images with Figures

Figure 1: Demo image of a basic OS architecture



1.4 Lists

Lists are easy to create:

- List entries start with the `\item` command.
- Individual entries are indicated with a black dot, a so-called bullet.
- The text in the entries may be of any length.

Numbered (ordered) lists are easy to create:

1. Items are numbered automatically.
2. The numbers start at 1 with each use of the `enumerate` environment.
3. Another entry in the list

2 Section

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.

2.1 SubSection

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.

2.1.1 SubSubSection

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.

References

[1] Clarke, Arthur C. 2001: A Space Odyssey. New York: Roc, 1968. 297.