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 30, 2023

Abstract

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Keywords— keyword1, keyword2, keyword3

Contents

1 How to use LaTeX

1.1 Basics

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

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

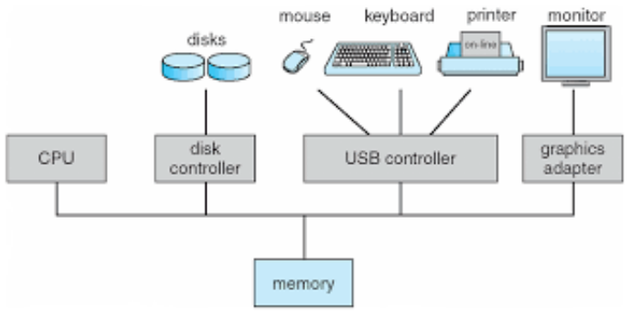
$$\int_2^3 x^2\,dx = \frac{3^3}{3} - \frac{2^3}{3} = \frac{19}{3}.$$

1.2 Pseudocode

```
1  precond graph1 and graph2 [(i_1, j_1), .., (i_{k<=m}, j_{k<=m})]
2  precond graph1.length = k_1
3  precond graph2.length = k_2
4  precond n is number of nodes
5  precond m is max number of edges
6  precond p >= n^2
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.
- Latex is awesome! -Arian

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

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2.1 SubSection

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References

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