How Panda Cubs Survive in Distributed Networks

presented by

Joe Bloggs

A thesis submitted to

The Faculty of Graduate Studies of

The University of Manitoba

in partial fulfillment of the requirements

for the degree of

Master of Science

Department of Computer Science

The University of Manitoba

Winnipeg, Manitoba, Canada

July 2020

© Copyright 2020 by Joe Bloggs

Thesis Advisor Author

Professor John Public

Joe Bloggs

How Panda Cubs Survive in Distributed Networks

Abstract

It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way — in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only.

ii

Contents

i

Al	ostra	act	ii	
Co	onter	nts	iii	
Li	${f st}$ of	Tables Tables	v	
Li	${f st}$ of	Figures	vi	
Ad	ckno	wledgements	vii	
De	edica	ation	viii	
1	Exa	amples	1	-
	1.1	AMS Theorem Styles	. 1	-
	1.2	Tables, Figures and Images	. 2	,

Title Page

2 Text	5
Bibliography	6
Appendices	7
A Continued Fraction I	8
B Continued Fraction II	9

List of Tables

1.1	Table to	test	captions	and	labels															2
1.1	Table to	UCBU	capulons	and	iabeis.	•	•	 •	•	•	•	•	•	•	•	•	•	•	•	

List of Figures

1.1	A newborn panda cub	•	•	٠	٠	•	•	•	•	•	•	•	•	•	•	٠	٠	•	٠	•	•	•	•	3
1.2	Curves																							4

Acknowledgements

I'd like to thank my committee, my parents and my two lovely pandas.

 $The\ thesis\ is\ dedicated\ to\ my\ imaginary\ girl friend.$

1

Examples

1.1 AMS Theorem Styles

Remark 1. This statement is true, I guess.

Theorem 1. Let f be a function whose derivative exists in every point, then f is a continuous function.

Definition 1. The **centre** of a graph G is the set of all vertices of minimum eccentricity.

Let $V = \{v_1, v_2, \dots, v_n\}$ and $\mathfrak{E} = \{\mathfrak{e}_1, \mathfrak{e}_2, \dots, \mathfrak{e}_m\}$. The $n \times m$ incidence matrix of a hypergraph $H = (V, \mathfrak{E})$ is a (0, 1)-matrix $A = (a_{ij})$ where

$$a_{i,j} = \begin{cases} 1, & \text{if } v_i \in \mathfrak{e}_j \\ 0, & \text{otherwise.} \end{cases}$$

And easily we can see that the incidence matrix of H is just the biajacency matrix of the original graph [1, pp. 22].

1.2 Tables, Figures and Images

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer 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.

Col1	Col2	Col2	Col3
1	6	87837	787
2	7	78	5415
3	545	778	7507
4	545	18744	7560
5	88	788	6344

Table 1.1: Table to test captions and labels

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.



Figure 1.1: A newborn panda cub

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.

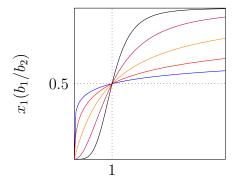


Figure 1.2: Curves

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer 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.

2

Text

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies 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 consectetuer.

Bibliography

A. S. Tanenbaum and D. J. Wetherall. Computer networks fifth edition.
 In Pearson Education, Inc. Prentice Hall, 2011.

Appendices

A

Continued Fraction I

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 ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

$$x = a_0 + \frac{1}{a_1 + \frac{1}{a_2 + \frac{1}{a_3 + a_4}}}$$

B

Continued Fraction II

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

$$x = a_0 + \frac{1}{a_1 + \frac{1}{a_2 + \frac{1}{a_3 + a_4}}}$$