**Vietnam General Confederation of Labor**

**TON DUC THANG UNIVERSITY**

**FACULTY OF INFORMATION TECHNOLOGY**



**FINAL REPORT**

**DISCRETE STRUCTURES**

*Instructor*: **Mr. PHAM THAI KY TRUNG**

*Student*: **Le Nguyen Nhat Hao - 521H0047**

**Nguyen Duc Anh - 521H0005**

*Class* **: 21H50201**

*Year* **: K25**

**HO CHI MINH CITY, 2022**

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**ACKNOWLEDGEMENT**

The first sincere thanks I want to give to Mr. Pham Thai Ky Trung, who enthusiastically taught and worked tirelessly to give me enough tools and skills to complete this report. He played an important role in improving my mathematical logic and knowledge. The second thanks I would like to give to the teachers of the Department of Information Technology of Ton Duc Thang University for giving me the opportunity to do this report.

I am very open to receiving feedback from teachers so that I can improve my report writing skills.

Finally, I wish you good health and success in your noble career.

**THIS PROJECT WAS COMPLETED AT**

**TON DUC THANG UNIVERSITY**

I fully declare that this is my own project and is guided by Mr. Pham Thai Ky Trung; The research contents and results in this topic are honest and have not been published in any form before. The data in the tables for analysis, comments and evaluation are collected by the author himself from different sources, clearly stated in the reference section.

Besides that, the project also uses a number of comments, assessments as well as data from other authors, other agencies and organizations, with citations and source annotations.

**Should any frauds be found, I will take full responsibility for the content of my report.** Ton Duc Thang University is not related to copyright and copyright violations caused by me during the implementation process (if any).

*Ho Chi Minh city, 5th May, 2023*

*Author*

*(Sign and write full name)*

*Nguyen Duc Anh*

*Le Nguyen Nhat Hao*

**CONFIRMATION AND ASSESSMENT SECTION**

**Instructor confirmation section**

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*Ho Chi Minh January, 2022*

*(Sign and write full name)*

**Evaluation section for grading instructor**

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*Ho Chi Minh January 2022*

*(Sign and write full name)*

**SUMMARY**

This is a report on Discrete Structures by the Faculty of Information Technology of Ton Duc Thang University. With the help of Mr. Pham Thai Ky Trung. This report was finished at 8:30AM on 7th January, 2022. . Sometimes this article of mine has many errors, I am very open to receiving the constructive contributions of teachers and will use it as a lesson for the final articles.

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**CHAPTER 1 – INTRODUCTION**

**Introduce the report**

In this report, we will do discrete structure exercises. This report has 8 questions in all and it will be addressed in chapter 2.

**CHAPTER 2**

**CHAPTER 3 – REFERENCES**

1. <http://www-math.ucdenver.edu/~wcherowi/courses/m5410/exeucalg.html>
2. <https://www.algotree.org/algorithms/tree_graph_traversal/depth_first_search/cycle_detection_in_undirected_graphs/>
3. IDP Project of Mark J. Becker at Chair M9 of Technische Universität München. 2015 <https://algorithms.discrete.ma.tum.de/graph-algorithms/hierholzer/index_en.html>
4. Join Brilliant <https://brilliant.org/wiki/extended-euclidean-algorithm/>

**CHAPTER 4 – SELF -EVALUATION FORM**

|  |  |  |
| --- | --- | --- |
| Question | Description | Score |
| Question 1 | Correct calculation, detailed explanation. | 1 |
| Question 2 | Correct calculation, detailed explanation. | 1 |
| Question 3 | Correct calculation, detailed explanation. | 1 |
| Question 4 | Right results, detailed  explanation. | 1 |
| Question 5 | Good study, right calculation, detailed explanation. | 1 |
| Question 6 | Reasonable detailed proposion with illustration. | 0.5 |
| Question 7 | a-Correct recognition, right explanation. b,c-Good study, right calculation, detailed  explanation. | 2 |
| Question 8 | Correct modeling, right coloring. | 2 |
| **Total** |  | 9,5 |