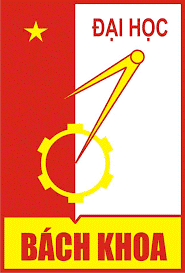
**TRƯỜNG ĐẠI HỌC BÁCH KHOA HÀ NỘI**

**VIỆN CÔNG NGHỆ THÔNG TIN VÀ TRUYỀN THÔNG**



**--------------------------------------------------------------------------**

***GVHD: TS. Lê Xuân Thành***

***Nhóm: 4***

***Thành Viên: Nguyễn Trung Thành – 20176874***

***Hoàng Thị Thu Trang – 20176891***

***Môn học: Thực hành Kiến Trúc Máy Tính***

***Mã Lớp: 113835***

Báo Cáo Mini-Projects

# **Thông tin về mini – projects**

1. Đề bài được phân công cho từng sinh viên như sau:

* Nguyễn Trung Thành

Project 7.

Some people are standing in a row in a park. There are trees between them which cannot be moved. Your task is to rearrange the people by their heights in a nondescending order without moving the trees. People can be very tall! Example: For a = [-1, 150, 190, 170, -1, -1, 160, 180], the output should be sortByHeight(a) = [-1, 150, 160, 170, -1, -1, 180, 190].

* Hoàng Thị Thu Trang

Project 8.

Write a program to:

- Input the number of students in class.

- Input the name of students in class, mark.

- Sort students due to their mark.

1. Đề bài làm thêm:

Project 21.

Let's define the digit degree of some positive integer as the number of times we need to replace this number with the sum of its digits until we get to a one digit number. Given an integer, find its digit degree.

Example

● For n = 5, the output should be digitDegree(n) = 0;

● For n = 100, the output should be digitDegree(n) = 1. 1 + 0 + 0 = 1.

● For n = 91, the output should be digitDegree(n) = 2. 9 + 1 = 10 -> 1 + 0 = 1.

Project 23.

Surpassing words are English words for which the gap between each adjacent pair of letters strictly increases. These gaps are computed without "wrapping around" from Z to A. For example:

Write a function to determine whether a word passed into a function is a surpassing word. You can assume the word is made of only alphabetic characters, and are separated by whitespace. We will consider the empty string and a 1-character string to be a valid surpassing word.

is\_surpassing\_word("superb") # => True

is\_surpassing\_word("excellent") # => False

Project 24.

Cyclone Word (challenge) Cyclone words are English words that have a sequence of characters in alphabetical order when following a cyclic pattern. Example:

Write a function to determine whether a word passed into a function is a cyclone word. You can assume that the word is made of only alphabetic characters, and is separated by whitespace.

is\_cyclone\_phrase("adjourned") # => True

is\_cyclone\_phrase("settled") # => False

1. Công cụ sử dụng:

Mars4\_5

1. Đường Link code:

<https://github.com/thanhhff/Computer-Architecture-Lab/tree/master/Mini-project?fbclid=IwAR0TpNoyEM8uP5kTnsVSQHFruJYQ60EpeL-2UIbE0mlHOsXH2Mcki3I6GRo>

Mục Lục

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# **Project 7 – sortByHeight**

**Đề bài:** Some people are standing in a row in a park. There are trees between them which cannot be moved. Your task is to rearrange the people by their heights in a nondescending order without moving the trees. People can be very tall!

Example: For a = [-1, 150, 190, 170, -1, -1, 160, 180], the output should be sortByHeight(a) = [-1, 150, 160, 170, -1, -1, 180, 190].

**Đường Link Code:** <https://github.com/thanhhff/Computer-Architecture-Lab/blob/master/Mini-project/project_7.asm>

**Phân tích cách thực hiện:**

**Ý nghĩa của các thanh ghi được sử dụng:**

**Ý nghĩa của các chương trình con nếu có:**

# **Project 8 – students**

**Đề bài:** Write a program to:

- Input the number of students in class.

- Input the name of students in class, mark .

- Sort students due to their mark.

**Đường link code:** <https://github.com/thanhhff/Computer-Architecture-Lab/blob/master/Mini-project/project_8.asm>

**Ý nghĩa của các thanh ghi được sử dụng:**

**Ý nghĩa của các chương trình con nếu có:**

# **Project 21 – digit degree**

**Đề bài:** Let's define the digit degree of some positive integer as the number of times we need to replace this number with the sum of its digits until we get to a one digit number. Given an integer, find its digit degree.

**Đường link Code:** <https://github.com/thanhhff/Computer-Architecture-Lab/blob/master/Mini-project/project_21.asm>

**Ý nghĩa của các thanh ghi được sử dụng:**

**Ý nghĩa của các chương trình con nếu có:**

# **Project 23 – Surpassing words**

**Đề bài:** Surpassing words are English words for which the gap between each adjacent pair of letters strictly increases. These gaps are computed without "wrapping around" from Z to A.

**Đường link Code:** <https://github.com/thanhhff/Computer-Architecture-Lab/blob/master/Mini-project/project_23.asm>

**Ý nghĩa của các thanh ghi được sử dụng:**

**Ý nghĩa của các chương trình con nếu có:**

# **Project 24 – Cyclone Word (challenge)**

**Đề bài:** Cyclone words are English words that have a sequence of characters in alphabetical order when following a cyclic pattern.

**Đường link Code:** <https://github.com/thanhhff/Computer-Architecture-Lab/blob/master/Mini-project/project_24.asm>

**Ý nghĩa của các thanh ghi được sử dụng:**

**Ý nghĩa của các chương trình con nếu có:**