
Higher National Diploma in Information Technology

Data Structures and Algorithms

Year 2 Semester 1 – 2024

Lab Practical Five

Objectives:

The objective of this lab exercise is learning how linked list works.

You are being assigned to develop a Java Application for Anime lovers to keep track of characters. The application should allow them to add characters, view details and remove characters.

1. Create a new general Java application project. Name the project as “AnimeApp”.
2. Create necessary packages.
3. Create the Link class.

Existing

```
Properties
    public String characterName;
    private String description;
    private String picture;
    public Link next;
Methods
    Constructure
    get methods for private properties
```

4. Create the Linked List Class.

```
class LinkedList {

    private Link first;
    public LinkedList(){}
    public Link getFirst(){} //return first
    public boolean isEmpty(){}
    public void insertFirst(String cn, String des ,String pic){}
    public void insertLast(String cn, String des ,String pic){}
    public void deleteFirst(){}
    public void insertBefore(String exName,String cn, String des
, String pic){}
        //Key is the name of the character
    public Link find(String name){}
    public Link delete(String name){}


}
```

Code for the browse button

```
imageChooser.setVisible(true);
    try {
        int returnVal =
imageChooser.showOpenDialog(this);
        if (returnVal == imageChooser.APPROVE_OPTION) {
            File file = imageChooser.getSelectedFile();
            txtPicture.setText(file.getAbsolutePath());

        } else {
            System.out.println("File access cancelled by
user.");
        }
    } catch (Exception ex) {
        System.out.println("Invalid Details");
    }
}
```

5. Create MainUI class. You can work on a design on your own. Sample interfaces are given below.



—

□

×

Add

View

Name

Description

Picture


Browse

Add First

Add Last

Existing Name

Add Before



—

□

×

Add

View

Name

MaoMao

Description

Maomao is the titular main protagonist of the anime, light novel, and manga series The Apothecary Diaries.

She is a young Chinese woman who lives and works as a lady in waiting in the Emperor's Inner Palace after being kidnapped and sold off to her employers.

Picture

\\Hp Elite Book\Desktop\Anime\Maomao.jpg

Browse

First


Add Last

Existing Name

Add Before

Message

×



Charachter Added

OK

—

□

×

Add


View

Name

MaoMao

Search

Remove



MaoMao

Maomao is the titular main protagonist of the light novel, and manga series The Apothecary

She is a young Chinese woman who lives as a lady in waiting in the Emperor's Inner Palace, having been kidnapped and sold off to her employer

Next