Osaze Osadolor

IT 511

Southern New Hampshire University

Professor Neal

December 12, 2020

Analyzing Problem

Creates a program that will help to organize a collection of items .

1. Create a collection of existing books and keeps them in a library
2. Allows a user to add new book add it to the collection
3. Allow a user see the books in the collection
4. Allows a user to access or change additional books in the library
5. Allows a user to delete a book from the collection

Description

Catalog item is a data structure that describes what goes into catalog and it can easily be modified for future development. The catalog item for example can be used to add additional features to the program, if you want borrow the book you can put a marker to the catalog item and mark it has borrowed. You can add a boolen value to a CATALOG\_ITEM and mark as borrowed. The SEARCH\_ITEM ISBN is a method that accepts a variable. Also, This data structure can be used to add/delete/search for specific item, and also to print a report of all the books. For example, the LOOP in the main section of the program only shows a basic menu navigation structure, but does not depict every single menu option and possible outcomes from that user choices.

Pseudocode for Program

CATALOG\_ITEM

              Title

             ISBN

             Year

CATALOG\_ITEM  Collection\_Of\_Items []

OBJECT Print\_Menu()

1.     Add Item

2.     Delete Item

3.     Search for Item

4.     Print report of all items

**5.**     **EXIT PROGRAM**

END\_OBJECT

OBJECT  Manage\_ITEM

                Search\_Item(ISBN)

                          //we search item by ISBN, which is unique

                        Prompt a user to enter to be searched:

                             ISBN and Year

                           IF ISBN is not FOUND, return error

                           ELSE return a CATALOG\_ITEM

             Add\_Item()

                        Prompt a user to enter to be added:

                             Title, ISBN, Year

                          IF Search\_Item(ISBN) == FALSE            //only add item if it is not already there

                                     Add the CATALOG\_ITEM to Collection\_Of\_Items []

                Delete\_Item(ISBN)

                        Prompt a user to enter to be deleted:

                             Title, ISBN, Year

                          Search\_Item(ISBN)

                          IF Search\_Item(ISBN) == TRUE            //only delete item if it is already there

                               Delete\_item by removing it from Collection\_Of\_Items []

                CreateReportOfAll\_Items()

                        Print all items and their parameters:

                             Title, ISBN, Year

                 Print\_Specific\_Item(ISBN)

                           IF Search\_Item(ISBN) == TRUE       //print an item if it is found

                            Print this item:

                                  Title, ISBN, Year

                            ELSE

                                 Print:

                                        “Item not found”

END of OBJECT

----- MAIN ----

LOOP Until Wants to Stop:

       Choice = Print\_Menu()

       If Choice != 5    //if user does not want to quit, manage the collection

             Manage\_ITEM

       ELSE

             EXIT

Reference:

Algorithms: Analysis of Algorithms: Question 1. (2013, February 05). Retrieved December 13, 2020, from https://www.geeksforgeeks.org/algorithms-analysis-of-algorithms-question-3/?ref=lbp