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Portfolio 2-5

Vocabulary:

Deque: A double-ended queue; a queue that can add and remove elements to the front or back of the list.

Nodes: The links of a LinkedList.

Comparable Interface: An interface used to define a group of objects. This includes lists and sets.

HashMaps: Maps that link a Key to a Value and may have duplicate Keys but cannot have duplicate Values.

LinkedList: A list of elements that is dynamically stored.

Queues: A list of elements with a first in first out ordering.

1.What is the difference between a Queue and a Stack? Give an example of each.

Queues are lists of elements with first in first out ordering. For example, a line at the bank atm. Stacks are queues that have reverse ordering. For example, let’s assume a company has 10 widgets. The first five widgets cost $100 each and arrived two days ago. The last five widgets cost $200 each and arrived one day ago. Based on the LIFO method of inventory management, the last widgets in are the first ones to be sold.

2.Is it possible to add nodes to the beginning of a LinkedList? If so, how? What about adding a node to the end of a LinkedList? If this can be done, what method would be used?

Yes, we can add a node to the beginning of a LinkedList. We can create a new node and put it into beginning by newNode.next= head; where head is the previous first node. After that we can declare the new head by head= newNode; .

Also, we can add a node to the end of a LinkedList. We can create a new node and we can search for end of the linked list by a single while loop. It can be like that;

While(null!= current.next){

Current = current.next;

}

Current.next = newNode;

3. What is the purpose of implementing the Comparable interface in one of our classes?

Comparable defines a natural ordering. What this means is that you're defining it when one object should be considered "less than" or "greater than". So it is very useful.

4. You are going to use a collection to store courses and their codes. Using the most appropriate collection store the following information.

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| Code | Course |
| CIT | Computing and Information Technology |
| CHI | Childcare and Early Education |
| MVS | Motor Vehicle Systems |
| BTH | Beauty Therapy |
| GDE | Graphic Design |



