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| Student Name | Asadullah |
| Roll Number | 21SW036 |
| Section # | 03 |
| Lab # | 08 |

**Task#01**

Question statement

PhotoViwer is one of the most used web apps which comes pre-installed on windows 10 devices and there are several different apps that are present in Google Play to view the media files present in your device. You must create a PhotoViwer app in which you can view all the photos which you have stored on your device. Along with that, you can view the individual photos in our app as well. The PhotoViwer application is having the following view functions.

1. Previous: View Previous image

2. Next: View the next image

3. Slideshow: display all stored images.

Other functions of PhotoViwer are:

1. Add new image

2. Rename/Update an image

3. Delete an image

4. Search any image

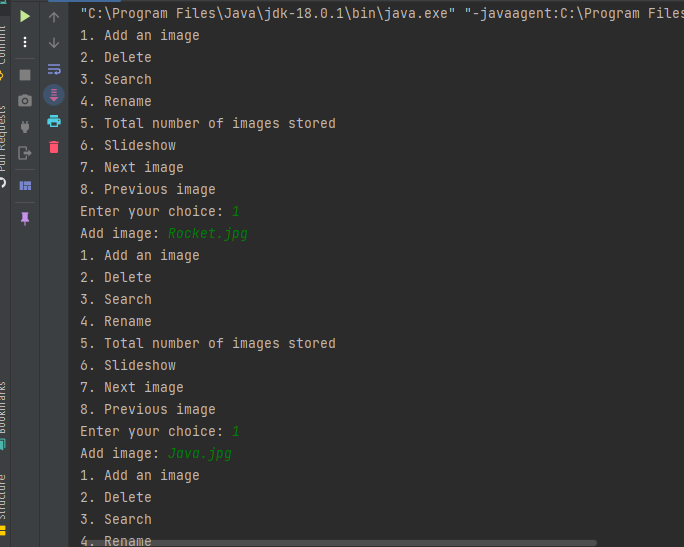
5. Counter: display the total number of images stored.

# Q1.Java

**Code:**

import java.util.Scanner;  
class DoublyLinkedList{  
 Scanner sc = new Scanner(System.*in*);  
 static class Node{  
 Node next, prev;  
 String image;  
 public Node(String image){  
 this.image = image;  
 }  
 } // end of class Node  
  
 Node head, tail;  
 int length;  
  
 public DoublyLinkedList(){  
 this.head = null;  
 this.tail = null;  
 this.length = 0;  
 }  
 public boolean isEmpty(){  
 return (length==0);  
 }  
 public void length(){  
 System.*out*.println(length);  
 }  
 public void slideShow(){  
 Node p = head;  
 while (p!=null){  
 if(p.next==null)  
 System.*out*.println(p.image+" -> null");  
 else  
 System.*out*.print(p.image+" -> ");  
 p = p.next;  
 }  
 System.*out*.println();  
 }  
  
 public void insert(){  
 System.*out*.print("Add image: ");  
 String image = sc.nextLine();  
 Node p = new Node(image);  
 if (isEmpty()){  
 head = p;  
 } else {  
 tail.next = p;  
 p.prev = tail;  
 }  
 tail = p;  
 length++;  
 } // end of prev  
  
 public void search(){  
 System.*out*.print("Enter name of image to search: ");  
 String image = sc.nextLine();  
 boolean flag = false;  
 for (Node p=head; p!=null; p=p.next){  
 if (p.image.equalsIgnoreCase(image)) {  
 flag = true;  
 break;  
 }  
 }  
 if (flag)  
 System.*out*.println("Image found");  
 else  
 System.*out*.println("Image not found");  
 } // end of search  
 public Node delete(){  
 System.*out*.print("Enter name of image to delete: ");  
 String image = sc.nextLine();  
  
 // If image found at head (OR node 1)  
 if (head.image.equals(image)){  
 head = head.next;  
 length--;  
 return head;  
 } else if (tail.image.equals(image)) {  
 Node p = head;  
 for (p = head; p.next.next != null; p = p.next) {  
  
 }  
 p.next = null;  
 }  
  
 for (Node p=head; p.next!=null; p=p.next) {  
 if (p.next.image.equals(image)) {  
 p.next = p.next.next;  
 length--;  
 }  
 }  
 return head;  
 } // end of delete()  
 public Node rename(){  
 System.*out*.println("Enter image to rename: ");  
 String image = sc.nextLine();  
 System.*out*.println("Enter new image name: ");  
 String newImage = sc.nextLine();  
 for (Node p=head; p!=null; p=p.next) {  
 if (p.image.equals(image)){  
 p.image = newImage;  
 break;  
 }  
 }  
 return head;  
 }  
 public Node next(){  
 System.*out*.println("Current image is "+head.image);  
 head = head.next;  
 return head;  
 }  
 public Node previous(){  
 System.*out*.println("Current image is "+tail.image);  
 tail = tail.prev;  
 return tail;  
 }  
} // end of class DoublyLinkedList  
  
public class Q1 {  
  
 static Scanner *sc* = new Scanner(System.*in*);  
 public static void display(){  
 System.*out*.println("1. Add an image");  
 System.*out*.println("2. Delete");  
 System.*out*.println("3. Search");  
 System.*out*.println("4. Rename");  
 System.*out*.println("5. Total number of images stored");  
 System.*out*.println("6. Slideshow");  
 System.*out*.println("7. Next image");  
 System.*out*.println("8. Previous image");  
 }  
  
 public static void main(String[] args) {  
  
 DoublyLinkedList doublyLinkedList = new DoublyLinkedList();  
  
 int choice;  
 do{  
 *display*();  
 System.*out*.print("Enter your choice: ");  
 choice = *sc*.nextInt();  
 switch (choice){  
 case 1 -> doublyLinkedList.insert();  
 case 2 -> doublyLinkedList.delete();  
 case 3 -> doublyLinkedList.search();  
 case 4 -> doublyLinkedList.rename();  
 case 5 -> doublyLinkedList.length();  
 case 6 -> doublyLinkedList.slideShow();  
 case 7 -> doublyLinkedList.next();  
 case 8 -> doublyLinkedList.previous();  
 }  
 }while (choice!=0);  
  
  
 } // end of main()  
}

**Output:**

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**Text

Description automatically generated**

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**Text

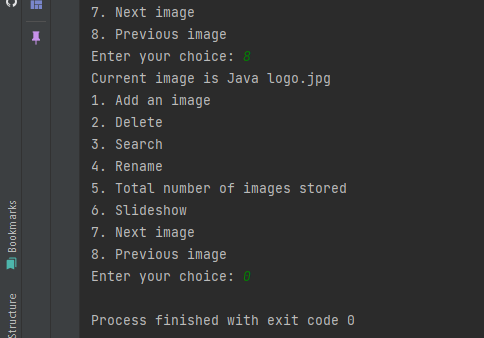
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