# CS3305 W04 Assignment 3

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## Output:

A screenshot of a computer program

Description automatically generated

## Source Code:

// Name: Ryan Brinson  
// Class: CS 3305 W04  
// Term: Fall 2023  
// Instructor: Carla McManus  
// Assignment: 3 – Part 1 Iterator  
  
import java.util.ArrayList;  
import java.util.Arrays;  
import java.util.Iterator;  
import java.util.Scanner;  
  
  
  
public class ArrayAndLinkedList {  
 public static final int *RANGES* = 1;  
 public static final int *REPETITION* = 2;  
   
 public static void main(String[] args) {  
 Scanner input = new Scanner(System.*in*);  
 char choice = 'y';  
  
 while (choice != 'n'){  
 Assignment.*printRanges*(input);  
 choice = *continueFunc*(input, *RANGES*);  
 }  
  
 choice = *continueFunc*(input, *REPETITION*);  
 if (choice == 'y') Assignment.*removeRepetitions*();  
  
  
 System.*out*.println("Thank! Come again!");  
  
 }  
  
 public static char continueFunc(Scanner in, int choice){  
 char c = 'y';  
  
 do {  
 if (choice == *RANGES*)  
 System.*out*.println("Choose another range? y/n");  
 else if (choice == *REPETITION*)  
 System.*out*.println("Remove Duplicates? y/n");  
 c = in.next().charAt(0);  
 if ((c != 'y') && (c != 'n'))  
 System.*out*.println("Please enter a valid choice \n");  
 } while ((c != 'y') && c != 'n');  
  
 return c;  
 }  
}  
  
class Assignment {  
 private static final ArrayList<Integer> *arr* =  
 new ArrayList<>(Arrays.*asList*(1, 1, 2, 3, 3, 4, 4, 5, 6, 7));  
  
 public static void printRanges(Scanner in){  
 int x, y;  
 System.*out*.println("Enter x: ");  
 x = in.nextInt();  
 System.*out*.println("Enter y: ");  
 y = in.nextInt();  
  
 *printRanges*(x, y);  
 }  
 public static void printRanges(int x, int y){  
 int temp = 0;  
 Iterator<Integer> iterator = *arr*.iterator();  
 if (y < x) {  
 while (iterator.hasNext()){  
 temp = iterator.next();  
 if (temp >= x)  
 System.*out*.print(temp + " ");  
 }  
 }  
 else {  
 while (iterator.hasNext()){  
 temp = iterator.next();  
 if ((temp >= x) && (temp < y))  
 System.*out*.print(temp + " ");  
 }  
 }  
 System.*out*.print("\n");  
 }  
 public static void removeRepetitions(){  
 Iterator<Integer> iterator = *arr*.iterator();  
 int p, q;  
 p = iterator.next();  
 q = iterator.next();  
  
 while (iterator.hasNext()){  
 if (p == q) iterator.remove();  
 else p = q;  
 q = iterator.next();  
 }  
 *printRanges*(1, 0);  
 }  
}