

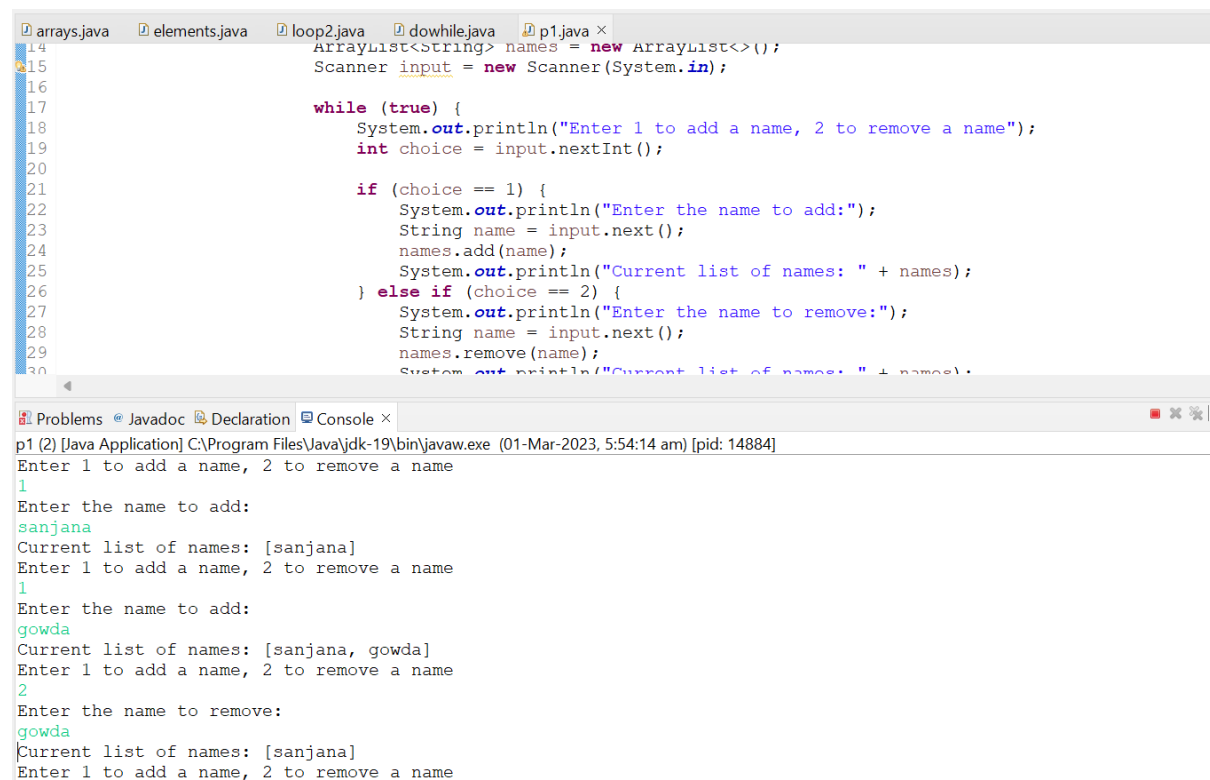
## Java Assignment -6

### The Collections framework in Java

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1.Create a program that uses an ArrayList to store a list of names. The program should allow the user to add and remove names from the list, and should display the current list of names after each modification.

<https://codeshare.io/wnv8jB>



```
14 ArrayList<String> names = new ArrayList<>();
15 Scanner input = new Scanner(System.in);
16
17 while (true) {
18     System.out.println("Enter 1 to add a name, 2 to remove a name");
19     int choice = input.nextInt();
20
21     if (choice == 1) {
22         System.out.println("Enter the name to add:");
23         String name = input.next();
24         names.add(name);
25         System.out.println("Current list of names: " + names);
26     } else if (choice == 2) {
27         System.out.println("Enter the name to remove:");
28         String name = input.next();
29         names.remove(name);
30         System.out.println("Current list of names: " + names);
31     }
32 }
```

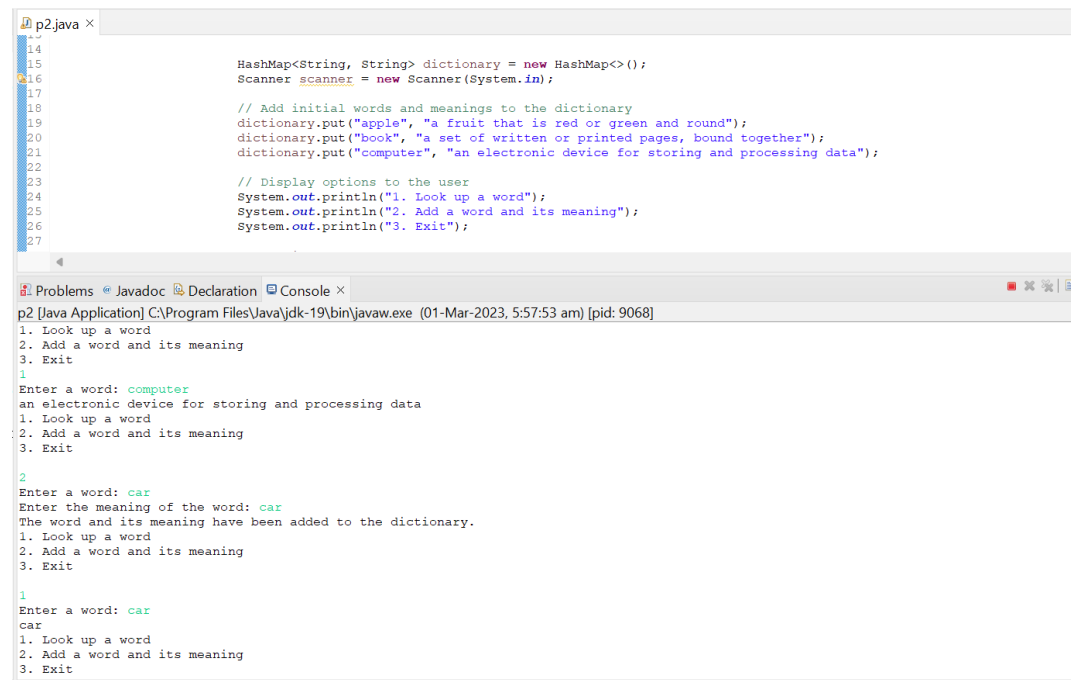
Problems Javadoc Declaration Console ×

p1 (2) [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (01-Mar-2023, 5:54:14 am) [pid: 14884]

Enter 1 to add a name, 2 to remove a name  
1  
Enter the name to add:  
sanjana  
Current list of names: [sanjana]  
Enter 1 to add a name, 2 to remove a name  
1  
Enter the name to add:  
gowda  
Current list of names: [sanjana, gowda]  
Enter 1 to add a name, 2 to remove a name  
2  
Enter the name to remove:  
gowda  
Current list of names: [sanjana]  
Enter 1 to add a name, 2 to remove a name

2.Create a program that uses a HashMap to store a dictionary of words and their meanings. The program should allow the user to add new words and meanings, and should display the meaning of a word when the user enters the word.

<https://codeshare.io/km8qeA>



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p2.java x
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HashMap<String, String> dictionary = new HashMap<>();
Scanner scanner = new Scanner(System.in);

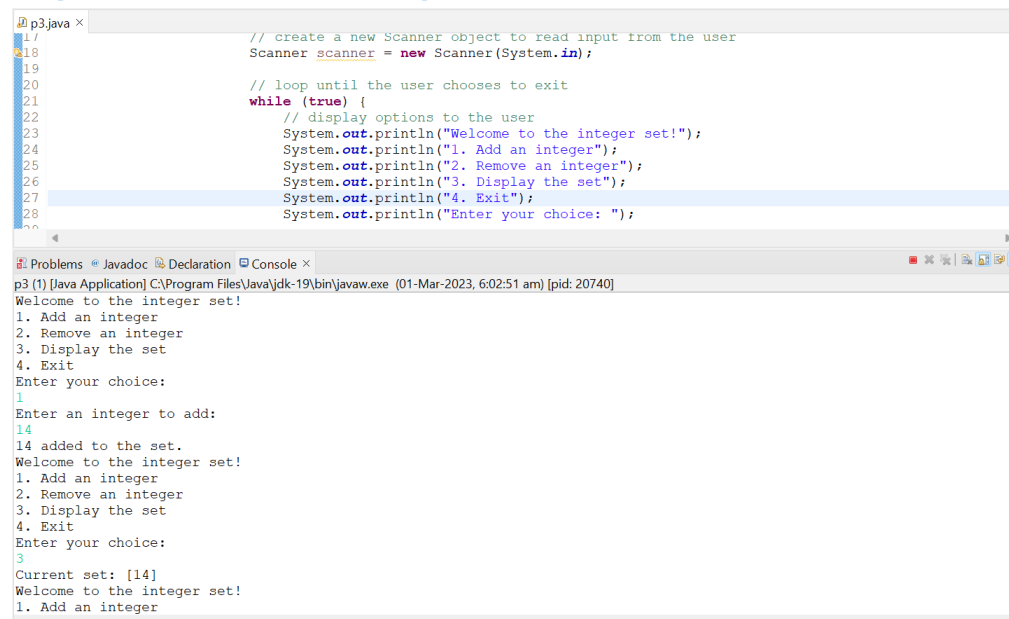
// Add initial words and meanings to the dictionary
dictionary.put("apple", "a fruit that is red or green and round");
dictionary.put("book", "a set of written or printed pages, bound together");
dictionary.put("computer", "an electronic device for storing and processing data");

// Display options to the user
System.out.println("1. Look up a word");
System.out.println("2. Add a word and its meaning");
System.out.println("3. Exit");

Problems Javadoc Declaration Console x
p2 [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (01-Mar-2023, 5:57:53 am) [pid: 9068]
1. Look up a word
2. Add a word and its meaning
3. Exit
1
Enter a word: computer
an electronic device for storing and processing data
1. Look up a word
2. Add a word and its meaning
3. Exit
2
Enter a word: car
Enter the meaning of the word: car
The word and its meaning have been added to the dictionary.
1. Look up a word
2. Add a word and its meaning
3. Exit
1
Enter a word: car
car
1. Look up a word
2. Add a word and its meaning
3. Exit
```

3.Create a program that uses a TreeSet to store a list of integers. The program should allow the user to add and remove integers from the set, and should display the current set of integers after each modification.

<https://codeshare.io/DZEpe3>



```
p3.java x
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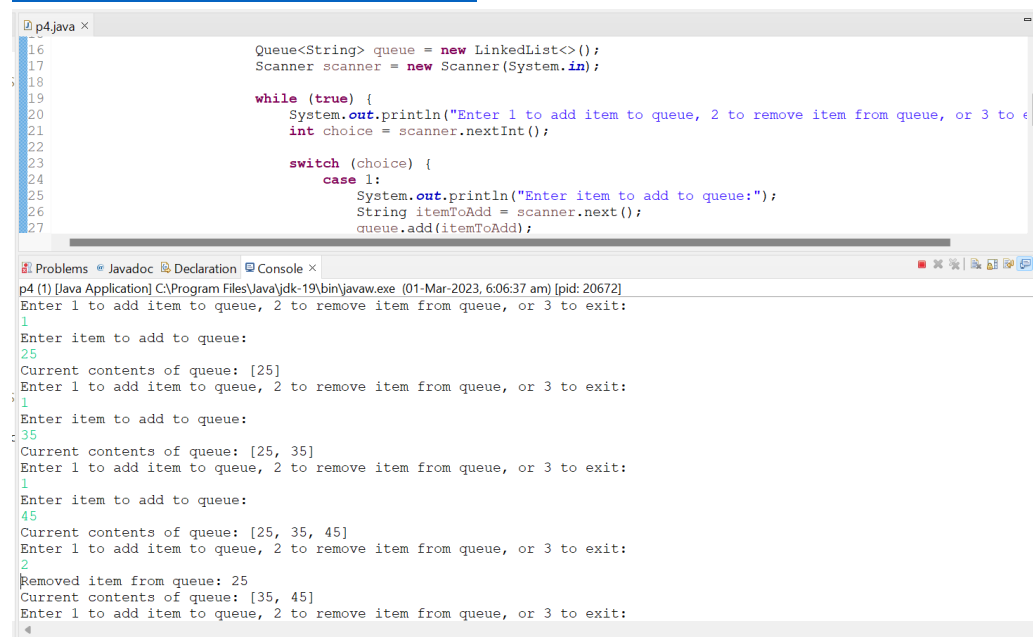
// create a new Scanner object to read input from the user
Scanner scanner = new Scanner(System.in);

// loop until the user chooses to exit
while (true) {
    // display options to the user
    System.out.println("Welcome to the integer set!");
    System.out.println("1. Add an integer");
    System.out.println("2. Remove an integer");
    System.out.println("3. Display the set");
    System.out.println("4. Exit");
    System.out.println("Enter your choice: ");
}

Problems Javadoc Declaration Console x
p3 (1) [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (01-Mar-2023, 6:02:51 am) [pid: 20740]
Welcome to the integer set!
1. Add an integer
2. Remove an integer
3. Display the set
4. Exit
Enter your choice:
1
Enter an integer to add:
14
14 added to the set.
Welcome to the integer set!
1. Add an integer
2. Remove an integer
3. Display the set
4. Exit
Enter your choice:
3
Current set: [14]
Welcome to the integer set!
1. Add an integer
```

**4.Create a program that uses a LinkedList to implement a queue. The program should allow the user to add and remove items from the queue, and should display the current contents of the queue after each modification.**

<https://codeshare.io/MNEzm3>



```
p4.java x
16 Queue<String> queue = new LinkedList<>();
17 Scanner scanner = new Scanner(System.in);
18
19 while (true) {
20     System.out.println("Enter 1 to add item to queue, 2 to remove item from queue, or 3 to exit:");
21     int choice = scanner.nextInt();
22
23     switch (choice) {
24         case 1:
25             System.out.println("Enter item to add to queue:");
26             String itemToAdd = scanner.next();
27             queue.add(itemToAdd);
28     }
29 }
30
31 System.out.println("Current contents of queue: " + queue);
32 }
33
34
```

Problems Javadoc Declaration Console x

p4 (1) [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (01-Mar-2023, 6:06:37 am) [pid: 20672]

Enter 1 to add item to queue, 2 to remove item from queue, or 3 to exit:

1

Enter item to add to queue:

25

Current contents of queue: [25]

Enter 1 to add item to queue, 2 to remove item from queue, or 3 to exit:

1

Enter item to add to queue:

35

Current contents of queue: [25, 35]

Enter 1 to add item to queue, 2 to remove item from queue, or 3 to exit:

1

Enter item to add to queue:

45

Current contents of queue: [25, 35, 45]

Enter 1 to add item to queue, 2 to remove item from queue, or 3 to exit:

2

Removed item from queue: 25

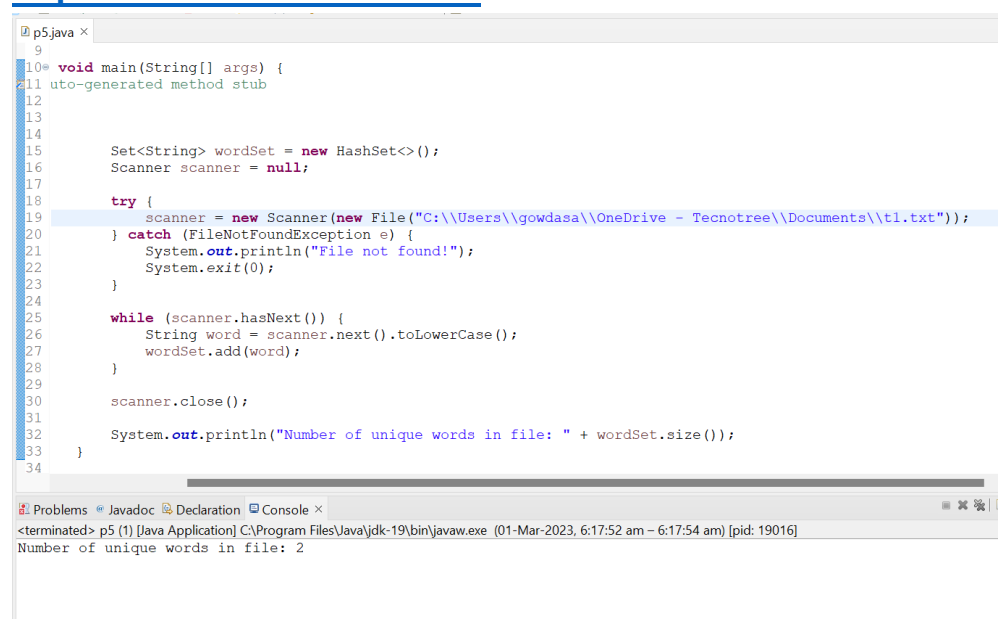
Current contents of queue: [35, 45]

Enter 1 to add item to queue, 2 to remove item from queue, or 3 to exit:

3

**5.Create a program that uses a HashSet to store a set of strings. The program should read in a text file, and should add each word in the file to the set of strings. After all words have been added, the program should display the number of unique words in the file.**

<https://codeshare.io/eV6WIK>



```
p5.java x
9
10 void main(String[] args) {
11     //auto-generated method stub
12
13
14
15     Set<String> wordSet = new HashSet<>();
16     Scanner scanner = null;
17
18     try {
19         scanner = new Scanner(new File("C:\\Users\\gowdasa\\OneDrive - Tecnotree\\Documents\\t1.txt"));
20     } catch (FileNotFoundException e) {
21         System.out.println("File not found!");
22         System.exit(0);
23     }
24
25     while (scanner.hasNext()) {
26         String word = scanner.next().toLowerCase();
27         wordSet.add(word);
28     }
29
30     scanner.close();
31
32     System.out.println("Number of unique words in file: " + wordSet.size());
33 }
34
```

Problems Javadoc Declaration Console x

<terminated> p5 (1) [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (01-Mar-2023, 6:17:52 am - 6:17:54 am) [pid: 19016]

Number of unique words in file: 2

