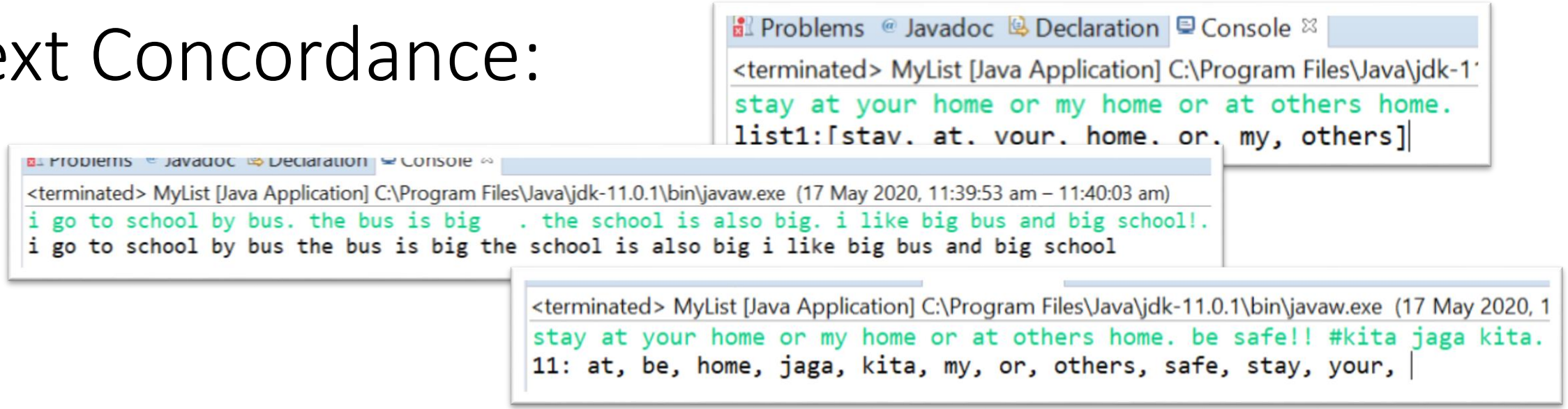
PART 3:
Application of Text Concordance
Data Structure: List

Text Concordance:



1. Display all words from a passage
2. Display all unique words from a passage
3. Display all unique words in sorted order
4. Display all unique words with its frequencies in sorted order

1. Display all words from a passage

- Input Passage:

I go to school by bus. The bus is big. The school is also big. I like big school and big bus.

- Output:

I
go
to
school
by
bus
The
bus
is
big
The
school
is
also
Big
I
like
big
school
and
big
bus

Algorithm : Display all words

Read a passage

For all words in the passage:

Push the word **at the back** of list

Display the list

```
1  import java.util.*;
2  public class MyList {
3          public static void main(String args[])
4                  {
5                      List<String> list1 = new ArrayList <String>();
6                      Scanner in = new Scanner(System.in);
7
8                      String passage = in.nextLine(); // read input passage
9
10                         String delims = "\\W+"; // split any non-word
11                         String [] words = passage.split(delims);
12                         for (String str : words){
13                                 str = str.trim();
14                                 list1.add(str);
15                         }
16                         System.out.println("list1:" + list1);
17                 }
18 }
19
```

2. Display all unique words from a passage

- Input:

I go to school by bus. The bus is big. The school is also big. I like big school and big bus.

- Output:

I
go
to
school
by
bus
the
is
big
also
like
and

- Input:

I go to **school** by **bus**. **The bus is big**. **The school is** also **big**. **I** like **big school** and **big bus**.

- Output:

I
go
to
school
by
bus
the
is
big
also
like
and

Algorithm : Display all unique words from a passage

Read a passage

For all words in the passage:

If the word does not exist in list
Push the word **at the back** of list

Display the list.

Check to make sure the word not exist before add it into list

```
1  import java.util.*;
2  public class MyList {
3          public static void main(String args[])
4                  {
5                      List<String> list1 = new ArrayList <String>();
6                      Scanner in = new Scanner(System.in);
7
8                      String passage = in.nextLine(); // read input passage
9
10                         String delims = "\\W+"; // split any non-word
11                         String [] words = passage.split(delims);
12                         for (String str : words){
13                                 str = str.trim();
14                                 list1.add(str);
15                         }
16                         System.out.println("list1:" + list1);
17                 }
18 }
19
```

3. Display all unique words in sorted order

- Input:

I go to school by bus. The bus is big. The school is also big. I like big school and big bus.

- Output with frequency:

also
and
big
bus
by
go
I
is
like
school
to
The

Algorithm

Unique words

Read a passage

For all words in the passage:

    If the word does not exist in list

        Push the word at the back of list

Display the list.

Unique + sorted words

Read a passage

For all words in the passage:

If the word does not exist in list

Determine suitable position to insert in list

Insert the word at the respective position of list

Display the list.

Algorithm

1

Unique + sorted words

Read a passage

For all words in the passage:

If the word does not exist in list

Determine suitable position to insert in list

Insert the word at the respective position of list

Display the list.

Unique + sorted words

Read a passage

For all words in the passage:

If the word does not exist in list

Insert the word at the back of list

Sort the list.

Display the list.

2

Non-recurring

Input: 10 12 28 10 34 25 88 10 34 8

:

.

Output: 10 … ??

Non-recurring + sorted

Input: 10 12 28 10 34 25 88 10 34 8

:

.

Output: 10 … ??

4. Display all unique words with its frequencies in sorted order

- Input:

I go to school by bus. The bus is big. The school is also big. I like big school and big bus.

- Output with frequency and sorted:

also
and
big (4)
bus (3)
by
go
I (2)
is (2)
like
school (3)
the (2)
to

Demonstration 1
Aim: Put integers in list

Demonstration 2
Aim: Put strings in list

Other problem

Write a menu-driven program, that can add, remove and display a list of things to buy. Please consider possible error messages.

```
Things to buy:
    1. Display things.
    2. Add thing.
    3. Remove thing.
    4. Exit.
```