

```
System.out.println("sample.indexOf(\"slow\") = " + notFoundPsn);
```

Read the description of `indexOf(String str, int fromIndex)`. Add lines to `StringExplorer` that illustrate how this version of `indexOf` differs from the one with one parameter.

This lab activity will use a variety of different `String` methods. Consult the API whenever you see one with which you are unfamiliar.

### Exploration: Understand the new method

This version of the `Magpie` class has a method named `findKeyword` to detect keywords. This method will only find exact matches of the keyword, instead of cases where the keyword is embedded in a longer word. Run it, using the instructions provided by your teacher.

```
private int findKeyword(String statement, String goal, int startPos)
{
    String phrase = statement.trim().toLowerCase();
    goal = goal.toLowerCase();
    int psn = phrase.indexOf(goal, startPos);

    while (psn >= 0)
    {
        String before = " ", after = " ";
        if (psn > 0)
        {
            before = phrase.substring(psn - 1, psn);
        }
        if (psn + goal.length() < phrase.length())
        {
            after = phrase.substring(psn + goal.length(),
                                     psn + goal.length() + 1);
        }
        /* determine the values of psn, before, and after at this point in the method. */
        if (((before.compareTo("a") < 0) || (before.compareTo("z") > 0))
            &&
            ((after.compareTo("a") < 0) || (after.compareTo("z") > 0)))
        {
            return psn;
        }
        psn = phrase.indexOf(goal, psn + 1);
    }

    return -1;
}
```

Read through the `findKeyword` method. To ensure that you understand it, trace the following method calls.

```
findKeyword("She's my sister", "sister", 0);
findKeyword("Brother Tom is helpful", "brother", 0);
findKeyword("I can't catch wild cats.", "cat", 0);
findKeyword("I know nothing about snow plows.", "no", 0);
```

Write the value of each of the variable `psn`, before, and after each time the program control reaches the point in the method indicated by the comment.

Example: `findKeyword("yesterday is today's day before.", "day", 0);`

Iteration	psn	before	after
1	6	"r"	" "
2	15	"o"	" "
3	21	" "	" "

Use a copy of the table below to trace the calls.

Iteration	psn	before	after
1	8	" "	"<"
2	19	" "	"5"