

## Extra Credit: Workflow

**Question 1.** Download the [370,105 unique English words](#) and write a Java program that prints all the palindromes<sup>1</sup> therein that are more than three letters long. Listing 1 shows how to fill a Java array of the appropriate size with the lines of a file. Store the code in a file called `Palindrome.java`.

```

1  public static void fillLines(String path, String[] lines) {
2      try (BufferedReader br = new BufferedReader(new FileReader(path))) {
3          int i = 0;
4          String line;
5          while ((line = br.readLine()) != null)
6              lines[i++] = line;
7      } catch (IOException e) {
8          e.printStackTrace();
9      }
10 }

```

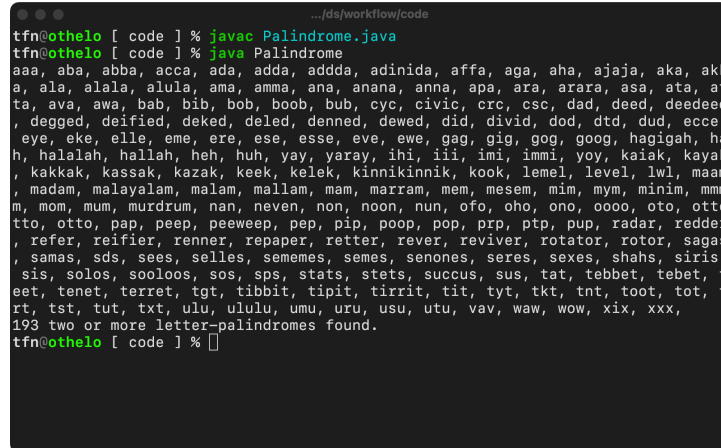
LISTING 1. Java function to fill an array with a file.

**Question 2.** How many three or more letter palindromes did your program find? Which is your favourite one?

## 2.1. EXAMPLE EXECUTIONS

Figure 1 shows how the output of the code for the files `Palindrome.java` should look like on the standard out. All your programs must compile/run from the command line using `javac` and `java` commands, e. g.,

```
javac Program.java
java Program
```



```

tfn@othelo [ code ] % javac Palindrome.java
tfn@othelo [ code ] % java Palindrome
aaa, aba, abba, acca, ada, adda, addda, adinida, affa, aga, aha, ajaja, aka, akk
a, ala, alala, alula, ama, amma, ana, anana, anna, apa, ara, arara, asa, ata, at
ta, ava, awa, bab, bib, bob, boob, bub, cyc, civic, crc, csc, dad, deed, deeded
, degged, deified, deked, deled, denned, dewed, did, divid, dod, dtd, dud, ecce
, eye, eke, elle, eme, ere, ese, esse, eve, ewe, gag, gig, gog, goog, hagigah, ha
h, halalah, hallah, heh, huh, yay, yaray, ihi, iii, imi, immi, yoy, kaia, kayak
, kakkak, kassak, kazak, keek, kelek, kinnikinnik, kook, lemel, level, lwl, maam
, madam, malayalam, malam, mallam, mam, marram, mem, mesem, mim, mym, minim, mmm
m, mom, mum, murdrum, nan, neven, non, noon, nun, ofo, oho, ono, oooo, oto, otte
tto, otto, pap, peep, peewee, pep, pip, poop, pop, prp, ptp, pup, radar, redder
, refer, reifier, renner, repaper, retter, rever, reviver, rotator, rotor, sagas
, samas, sds, sees, selles, sememes, semes, senones, seres, sexes, shahs, siris,
sis, solos, sooloos, sos, sps, stats, stets, succus, sus, tat, tebbet, tebet, t
eet, tenet, terret, tgt, tibbit, tipit, tirrit, tit, tyt, tkt, tnt, toot, tot, t
rt, tst, tut, txt, ulu, ululu, umu, uru, usu, utu, vav, waw, wow, xix, xxx,
193 two or more letter-palindromes found.
tfn@othelo [ code ] %

```

FIGURE 1. Example execution of the code for the first question.

## 2.2. SUBMISSION INSTRUCTIONS

- Submit the source file `Palindrome.java`. We don't need any dot class files.
- The PDF file `sol.pdf` should contain written answers to questions as well as a screenshot similar to the one in figure 1 that demonstrates your code being compiled and ran.

OKLAHOMA CITY UNIVERSITY, PETREE COLLEGE OF ARTS & SCIENCES, COMPUTER SCIENCE

<sup>1</sup>Words that read the same forwards and backwards, e. g., `madam`.