

## Program 6

CS 140  
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Write an interactive Java program (e.g. `Program6.java`) that reads a key file containing correct answers for a multiple-choice exam, prompts for input from the keyboard to obtain the user's answers, and outputs the user's score, incorrect answers (with corrections), and whether or not the user passed the exam.

The first line of a key file (e.g. `Program6.in`) contains the number of questions  $n > 0$ . The remaining  $n$  lines of the key file contain a single letter which is either A, B, C or D. You can assume that the key file is named `Program6.in` and can be read without input validity checking. The following is an example key file:

```
10
C
B
D
D
A
B
A
D
C
A
```

The program should execute the following steps:

- 1) read the number of questions  $n$  from the key file.
- 2) for each of the  $n$  questions, read the correct answer from the key file and store it in an array.
- 3) report the number  $n$  of questions on the exam.
- 4) for each of the  $n$  questions, prompt for the user's answer and store it in an array. If an answer is not a single letter A, B, C or D, prompt for the answer again.
- 5) report the number of questions correctly answered out of  $n$  questions
- 6) for each question incorrectly answered, report the correct answer and the user's answer
- 7) report that the user "passed" if at least 60% of the  $n$  questions were correctly answered, or "failed" otherwise.

The following is an example interaction produced when running the program using the given key file:

```
Script started on Tue May 17 21:03:05 2005
% java Program6
Please answer A, B, C or D for each of the following 10 questions

1: C
2: B
3: C
4: D
5: F
Please answer A, B, C or D
5: A
6: B
7: B
8: C
9: C
10: A

Your score is 7 correct out of 10 questions

3: answer should have been D instead of C
7: answer should have been A instead of B
8: answer should have been D instead of C

You passed the exam
% exit
exit

Script done on Tue May 17 21:05:35 2005
```

Run your program using the given key file and capture the interaction in a file (e.g. using the script command). Turn in a printed copy of the Java source code file (e.g. Program6.java) and the interactive output file (e.g. Program6.out).