

Exercise8 – Crazy Eights

Due by the end of your Week-12 laboratory class.

(2 marks)

This exercise is to be done before or during your week 12 laboratory class. When you complete the exercise show your work to your lab tutor to have your work marked. The marking is based mainly on correct implementation and code readability. You should implement your code in one file (e.g. ex8.cpp, ex8.c, ex8.java). Make sure your program has a header comment block containing the name of the exercise, your name and your student login (e.g. jfk01). You may implement your solution in C, C++, Java or Python.

For this exercise, you are to solve the crazy 8s puzzle using Dynamic Programming as presented in the week 10B lecture.

As usual, your program will prompt for the name of an input file and then read and process the data contained in this file.

The file contains the following data.

52 lines each containing the identity of a playing card in the form **RS**, where R is the *Rank* of the card (A, 2, 3, 4, 5, 6, 7, ..., 10, J, Q, K) and S is the *Suit* (C, D, H, S).

E.g.

```
2C
10D
QS
...
AS
JD
5H
```

The order of cards in the list is the shuffled order of the deck you are to solve,

You are to solve the deck (find the longest allowable sequence of cards) and output:

```
The length of the longest sequence;
The first card in the sequence;
The last card in the sequence.
```

Remember: The sequence **is** allowed to skip cards, it **is not** allowed to re-order cards.

When you are finished, test your program using the provided text file named “Ex8.txt” and show your code and the output to your lab tutor to receive your mark.