

CS 3824

Homework Assignment 4

Given: February 17, 2010

Due: March 2, 2010

General directions. The point value of each problem is shown in []. Each solution must include all details and an explanation of why the given solution is correct. In particular, write complete sentences. A correct answer without an explanation is worth no credit. The completed assignment must be placed inside the box labeled “CS 3824” outside 2160J Torgersen by 4:00 PM EST on March 2, 2010. **No late homework will be accepted.**

Digital preparation of your solutions is mandatory. Use of \LaTeX is optional, but encouraged. No matter how you prepare your homework, **please include your name.**

Use of \LaTeX (optional, but encouraged).

- Retrieve this \LaTeX source file, named `homework4.tex`, from the course web site.
 - Rename the file `<Your VT PID>_solvehw4.tex`, For example, for the instructor, the file name would be `heath_solvehw4.tex`.
 - Use a **text editor** (such as `vi`, `emacs`, or `pico`) to accomplish the next three steps.
 - Uncomment the line

```
% \setboolean{solutions}{True}
```

in the document preamble by deleting the %.
 - Find the line

```
\renewcommand{\author}{Lenwood S. Heath}
```

and replace the instructor’s name with your name.
 - Enter your solutions where you find the \LaTeX comments

```
% PUT YOUR SOLUTION HERE
```
 - Print out and submit your solutions by 4:00 PM on March 2, 2010.
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	0	1	2	3	4	5	6	7	8	9
		G	G	A	C	G	T	A	C	G
0										
1 T										
2 A										
3 C										
4 G										
5 G										
6 G										
7 T										
8 A										
9 T										

Figure 1: L^AT_EX template for dynamic programming in second problem.**[10] 1. Jones and Pevzner problem 6.10.**

Develop a dynamic programming algorithm to determine who will win. Each chess square has a binary value that indicates whether it is a win for the player who just moved or for the other player.

[20] 2. Jones and Pevzner problem 6.20.

Only do the first two bullets. Figure 1 contains a L^AT_EX template to fill in twice, once for the first bullet and once for the second bullet.

[20] 3. Jones and Pevzner problem 6.32.

Follow the dynamic programming paradigm. Give pseudocode for the resulting algorithm.
