Intro to Algorithms & Programming I Assignment 1

1. a) There is only a single directive in this program which is (#include). There are four statements in this program which consist of three calls of printf and one call of return.

b) The program outputs the following:

Parkinson’s Law:

Work expands so as to fill the time

available for its completion

1. See a1.parkinson.rap
2. There are 14 tokens in the statement. The tokens are:

answer, =, (, 3, \*, q, –, p, \*, p, ), /, 3, and ;.

1. answer = ( 3 \* q – p \* p ) / 3 ;
2. a) Lines 1,4,10,13, and 16 can be deleted without causing any change of the program’s functionality or compiling error. For lines 1,4,10, and 16, these lines are all white space, meaning that if they are deleted none of the program’s actual code is touched; the lines simply improve readability by dividing up the code into blocks that make related code more straightforward to look at. A similar argument is available for line 13 as the line is a comment explaining lines 14 and 15; it can be removed without affecting any of the code.

b) Line 1 can be deleted without affecting the program’s functionality, compilation, or readability. This is because the first line in the code doesn’t perform any of the actions that white space usually does such as dividing up segments of code for easier comprehension or making the code look cleaner as there isn’t any code preceding the first line of the program.

1. See a1.date.rap