Name： _____ Student ID： _____

1. Grouping the following four commands: date, ls, pwd, and date, and redirecting the standard output to be saved in a file named groupOut.txt. Can we use the grouped commands in a Makefile for make utility/command? (20 points)

2. What is the difference between a ' ' and a ` `. What is the result of the following commands:

DATA1= `date | wc -l`

DATA2= '2'

echo "The processed data are $DATA1 and $DATA2." (20 points)

3. After we compiled our source code(s), by default it is not an executable, e.g. a file named a.out. How we may allow (1) all users can execute it, (2) only owner can read/write/execute, while not accessible to all other users. (20 points)

4. Write a command sequence to find files starting with "test" in a directory hierarchy (e.g. your home directory) that have been modified for 90 days and pack them into a file named out.tar. (25 points)

5. Try to search the amino acid pattern ATGACGGATCAGCC in a DNA chain from the file DNA-X.txt using grep, then redirect into a file named PatternInterested.txt. May we use egrep to do the same job?

(15 points)