

# CS 5045 – Computation for the Life Sciences

## Fall 2003

### Homework 08

October 25, 2003

**Problem 1.** Write a program that reads a list of numbers representing time in seconds (elapsed from midnight, Dec. 31st 2002 to Jan 1st 2003). Each number will be converted to hours, minutes, and seconds and printed as "DAY ddd, TIME hh:mm:ss" (using 3 digits for day number and 2 digits for hours, minutes, and seconds). The day will be represented by a 3 digit number (e.g. day 33 will stand for Feb. 2nd etc.)

**Problem 2** Write a second program which reads a dna sequence, translates it to a peptide, and displays the sequence and the peptide as follows. Each sequence of 3 nucleotides in the dna is displayed, followed by the name of the corresponding aminoacid in paranthesis, followed by one blank space; then comes the next sequence of 3 nucleotids etc. Four such fields are written per line of output.

For example tcatacctcgtctttc will become

```
tca(S) tcc(S) tcg(S) tct(S)
ttc(F)
```