

CSCI 132 Practical Unix Programming

Homework 3

Due 10/17/08

Saad Mneimneh
Computer Science
Hunter College of CUNY

PART 1

Read chapter 4 in the UNIX book and do exercises 1, 2, 4, and 5 (of course “your own Unix machine” refers to a machine in the lab).

PART 2

In class, we wrote a Perl program to find the best overlap between two strings. Here’s the program that we came up with:

```
#convert strings to arrays a1 and a2 (assume a2 is smaller)
my $l=0;
for (my $i=0; $i<=#a2; $i=$i+1) {
    my $good=1;
    for (my $j=0; $j<=$i; $j=$j+1) {
        if ($a1[$j] ne $a2[$#a2-$i+$j]) {
            $good=0;
            last;
        }
    }
    if ($good) {
        $l=$i+1;
    }
}
# l is now the best overlap to the left
```

The above program identifies the best overlap to the left. To find the best overlap to the right, we can simply reverse both strings and repeat the same thing. However, we did not account for overlaps in the middle; for instance:

```
ababaca
  |||
  baba
```

Write a program to find the best overlap of two strings by considering overlaps to the left, right, and middle. Make your program read the strings from the input.

PART 3:

Write a program to read a string from the input and print all its non-empty substrings. For instance, if the string is "saad", then the substrings are: "s", "a", "a", "d", "sa", "aa", "ad", "saa", "aad", and "saad".