COMP2041 Week 2 Tutorial

Question 4

Operating system: piece of software that manages the hardware of a computer and provides an interface to the programs that run on the computer.

RegExp

- `^` is the first of line
- `$` is the end of line
- `*` repetition 0 or more
- `+` repetition 1 or more
- `?` 0 or 1
- `|` or
- `[]` inside
- `.` any character
- `\d` digit
- `\D` anything but not digit
- `\s` white space
- `\S` anything besides white space
- `\w` numeric [A-Z0-9]
- `\W` anything but not numeric
- `\b` word boundary
- `\B` not word boundary
- `{n}` n times
- `{n,}` more than n times

Question 5

a. `#include`, `#define`, `^#`

b. `^[^#]`

c. `+$`

d. `[BHLP]arry`, `(Barry|Harry|Larry|Parry)`

e. `hello.*world`

f. `c[ae]l[ae]nd[ae]r`

g. `[0-9]+(,[0-9]+)+`

h. `"[^"]*\\n"`

Question 6

1. `<` and `>` are unix commands for file input output

   add quotes

2. `grep` does not support alteration

   use egrep

3. tags are case insensitive

   use -i for case insensitive `egrep -i '<p>|<br>' /tmp/index.html`

4. there can be spaces between the `<` and `>`

   use -w `egrep -iw '<p>|<br>' /tmp/index.html`

5. there can be attributes

   `egrep -i '<(p|br)[^>]*>' /tmp/index.html`

Question 8

`[0-9]+\.[0-9]+`

Question 9

`-v` is to exclude, `.` matches any character, so it prints all empty lines in its input

Question 10

`egrep '129\.94\.172\.([1-9]|1[0-9]|2[0-5])$' ips.txt`

Question 11

a. `:[^:]+:` regex tries to match the first one they can find, so this will first match to the second field

b. `^[0−9]+(\.[0−9]+)?`

c. `[^|,]+, [^|]+`

d. `[^|,]+,( [^|]+)+`

Question 12

a. `sort q12`, `sort −k2n q12`, `sort −k2nr q12`

b. `grep 'FL' q12`, `grep '9[0−9] ' q12`, `grep '^[0−9]*[02468] ' q12`

c. `sort −k2n q12 | head`, `sort −k2nr q12 | head −5`

d. `cut −d' ' −f3 q12 | sort | uniq −c`

Question 13

a. `grep 'Ng, Hinry' enrolments | cut −d'|' −f3`

b. `cut −d'|' −f3 enrolments | sort | uniq | wc −l`

c. `cut −d'|' −f3 enrolments | sort | uniq −c`

d. `sort enrolments | uniq | cut −d'|' −f1,2 | uniq −c | egrep −v '^ *1'`