In-Class Assignment 4

Searching

Wednesday, January 18, 2006

Regular Expressions (Answers)

1. What do the following regular expressions match?

   (a) /m(a|e|i|o|u)d/
       mad, med, mid, mod, mud

   (b) /m(a|e|i|o|u)d?/
       ma, me, mi, mo, mu, mad, med, mid, mod, mud

   (c) /m(a|e|i|o|u)?d/
       md, mad, med, mid, mod, mud

   (d) /qwer*ty/
       qwety, qwerty, qwerrty, qwrrtty, ...

   (e) /qw(er)*ty/
       qwty, qwerty, qwererty, qwerererty, ...

   (f) /qw(er)+ty/
       qwerty, qwerety, qwererety, qwerererety, ...

   (g) /qwer.ty/
       qwer4ty, qweraty, qwer!ty, ..., qwerzy (every possible character)

   (h) /qwer.*ty/
       qwer4ty, qweraty, qwer!ty, ..., qwerany-long-stringty, ...

   (i) /qwe(r.)*ty/
       qwety, qwer4ty, qwer6rity, qwerrerpr0ty, ...

2. Write regular expressions which match the following lists of strings:

   (a) cabin, kabin
       /[^ck]abin/
(b) cabin, kabin, cabins, kabins
   /\textit{ck}abins?/

(c) cabin, kabin, cababin, kababin, cabababin, kabababin, ...
   /\textit{ck}(ab)+in/

(d) a, as, asd, asf, asdf, ad, adf, af
   /as?d?f?/