

ECE 461 – Internetworking

Problem Sheet 4

Problem 1. Consider the following set of prefixes

- a) 0001*
- b) 00010*
- c) 00011*
- d) 001*
- e) 0101*
- f) 011*
- g) 100*
- h) 1010*
- i) 1100*
- j) 11110000*

Construct the following tries and trees

- 1) a binary trie for the set of prefixes;
- 2) a path-compressed trie;
- 3) a disjoint-prefix binary trie;
- 4) a multibit trie with stride size 2;

Problem 2. IPv6 Addresses

a. Provide the full 16 byte address (using hexadecimals) of the following abbreviated IPv6 addresses:

a1) 2001:DB8:65A3::5D2E:0:34

a2) ::1 ;

a3) FE80::E2F8:47FF:E44:2A08 .

b. Explain why abbreviating an IPv6 address as 2001::DB8:65A3::EF:34 is not permitted.