COS217 Precept 15 – A4 Scavenger Hunt

Setup: `cp -r /u/cos217/precepts/precept15 ~/cos217 && cd ~/cos217/precept15`

Focusing on the function `DT_insert()`, answer the following questions.

1) What is the difference between `Path_T`, `Node_T`, and DT? (Describe field members, relation to each other, and whether they are ADTs or AOs)

2) Why does `DT_insert()` call `DT_traversePath()`? What does `DT_traversePath` do?

3) Give a set of insertion operations (i.e. what paths) that would cause a `CONFLICTING_PATH` error in `DT_insert()`.

4) Explain how `ulIndex` is used in `DT_insert()` and how it is initialized (lines 203-207).

5) What does `Path_prefix()` do in the context of `DT_insert()`?

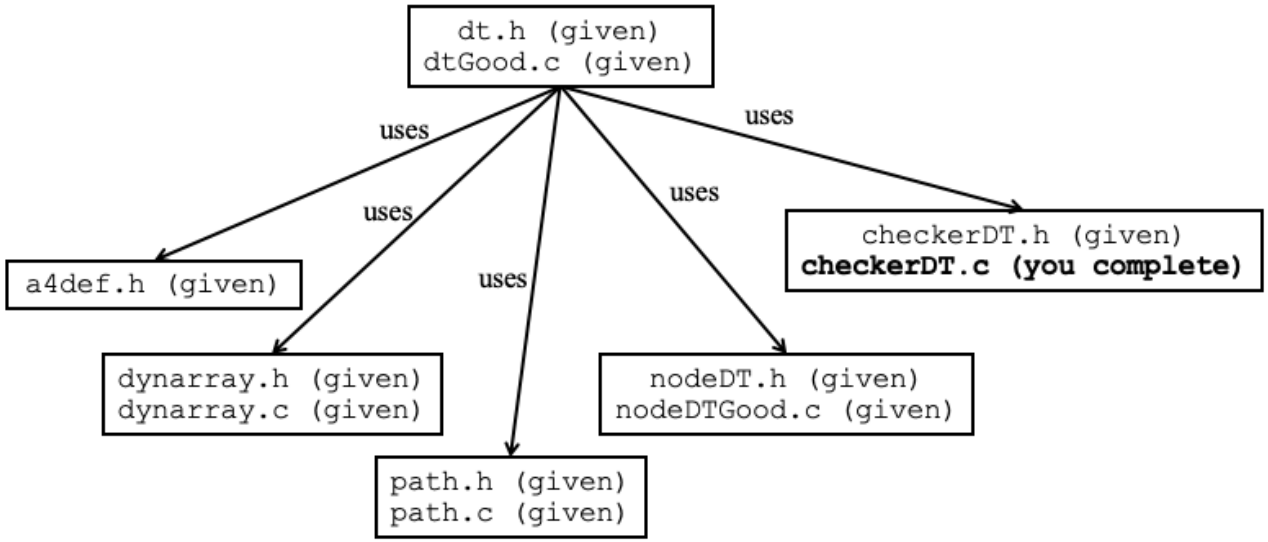
6) Who is responsible for linking new nodes in the Directory Tree to parents?

7) How is `Path_free()` different from `Node_free()`?

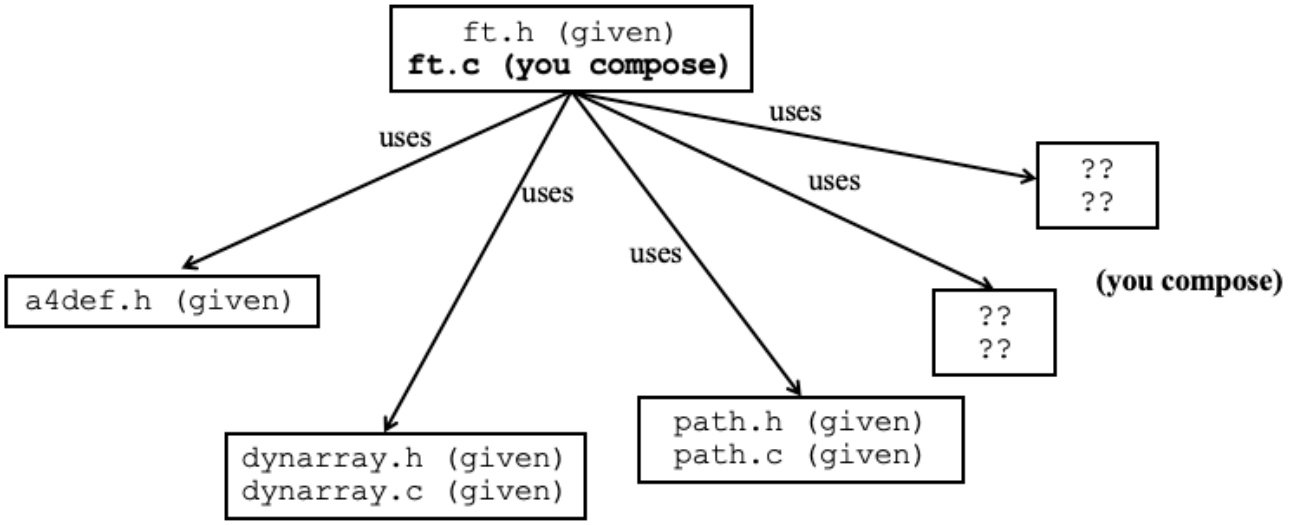
8) Why does `DT_insert()` have a `oNFirstNew` node? Why do we keep track of `ulNewNodes`?

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COS 217: Introduction to Programming Systems

DT Code



FT Code



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