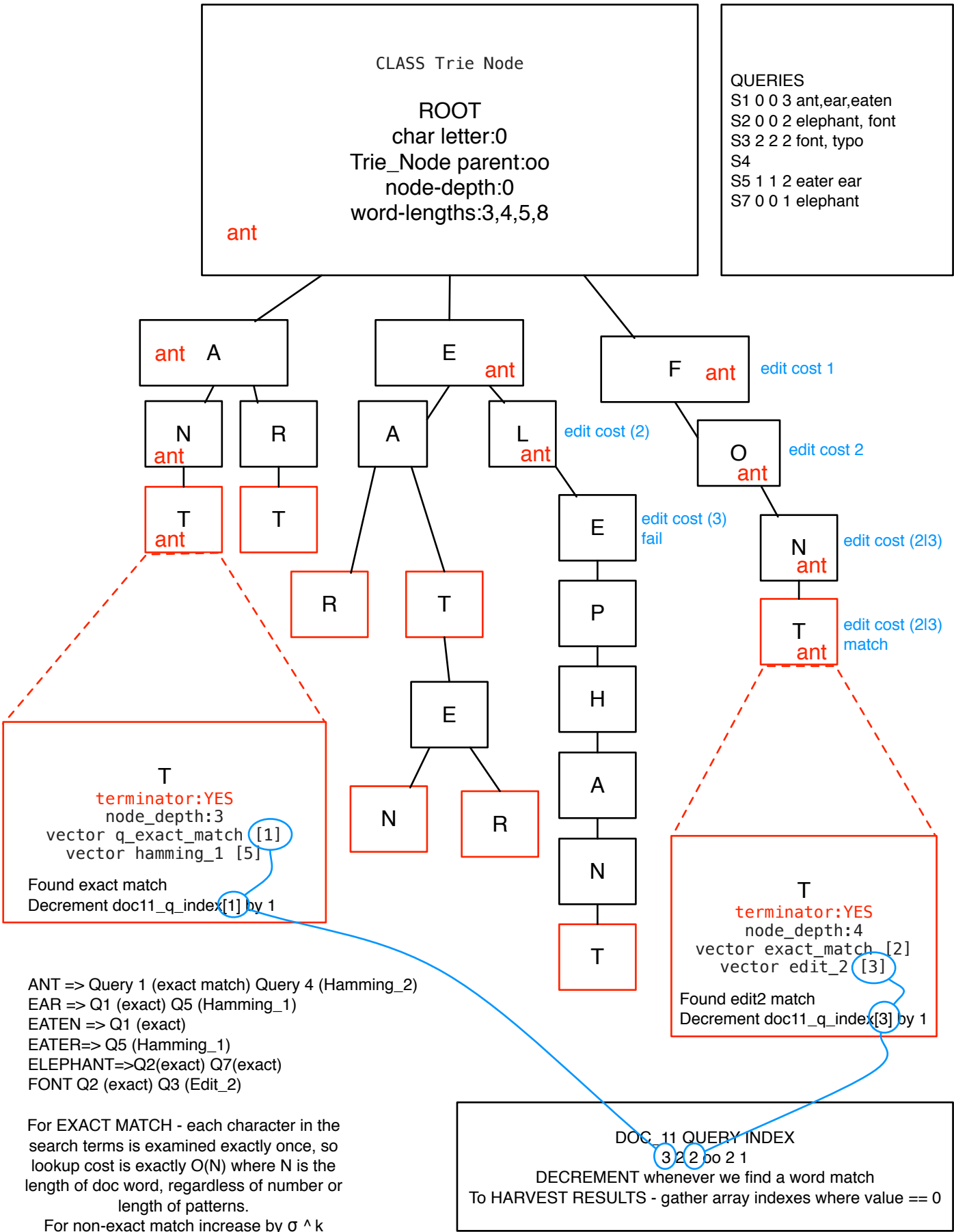


CLASS Trie



T
terminator:YES
node_depth:3
vector q_exact_match [1]
vector hamming_1 [5]
Found exact match
Decrement doc11_q_index[1] by 1

T
terminator:YES
node_depth:4
vector exact_match [2]
vector edit_2 [3]
Found edit2 match
Decrement doc11_q_index[3] by 1

DOC_11 QUERY INDEX
3 2 2 5 0 2 1
DECREMENT whenever we find a word match
To HARVEST RESULTS - gather array indexes where value == 0

```

CLASS Trie Node
char letter;
Trie Node parent;
int depth;
char* [26] child_alphabet; //initialise with 26 elements val oo
vector <int> word_lengths;
bool terminator
    vector <int> q_exact_match //query_ids of exact_match queries containing this word
    vector <int> q_hamming_1 //query_ids of hamming_match_1 queries containing this word
    vector <int> q_hamming_2 //query_ids of hamming_match_2 queries containing this word
    vector <int> q_edit_1 //query_ids of edit_distance_1 queries containing this word
    vector <int> q_edit_2 //query_ids of edit_distance_2 queries containing this word
}
vector <int> matching_docs //do we need this?

- void check_match_valid (query_id, match_type) {
    // look up query_id in list of eliminated queries
    // if it is there, delete it from match_type
    // this way we don't need to delete eliminated entries.
    // OPTIMISATION=>may need to reconsider for deleting eliminated entries.
}

-void match_found (doc_id, query_id) {
    decrement the doc_id query_index
}

-void add_char (query_char, query_id, match_type, match_dist) {
    //adding the next character from a new query word;

    if (query_char == \0) { //we've reached the end for this query word
        //reached word termination
        switch (match_type){
            case exact_match:
                push_back(q_exact_match, query_id);
                break;
            case hamming_match:
                if (match_dist == 1) push_back (q_hamming_1, query_id)
                else push_back (q_hamming_2, query_id)
                break;
            case edit_distance:
                if (match_dist == 1) push_back (q_edit_1, query_id)
                else push_back (q_edit_2, query_id)
                break;
        }

    } else { // not yet terminating

        if (child_alphabet[char]==oo) {
            new Trie Node [query_char]
        }
        TrieNode* node = child_alphabet[char];

        node::add_char (query_char+1, query_id, match_type, match_dist)
    }
}

- void log_node_depths {
    //when we have reached the final insert of a new query_word,
    //only then do we know our word length.
    //Npw climb back up the tree to register word_length with every parent node.
    //we use this info at every node to work out whether to explore the tree further
    //(eg if doc-word length is 8 but following this node only yields
    //query words max 6 length, don't bother)
    parent add_word_length[self.depth]
}

- int depth {
    if (!_depth) {
        _depth = parent.depth+1;
    }
    return _depth;
}
}

```