

G11 TY TEST

1.- Ex: struct node {
 int key;
 struct node * left;
 struct node * right;
};

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Im:

$T = [\text{node}, \text{node}, \dots]$

typedef int node;

But

"left(T[i])" = T[2i]

"right(T[i])" = T[2i+1]

2) Speed, & ^{size in} memory

Implicit rep. just payload size

While in linked lists we have

payload size + 8 bytes for pointer

- 3) (~~0. Design specs.~~)
- 1.- Gather information
 - 2.- Describe logic
 - 3.- Pseudo-code
 - 4.- Write actual code

4) void compstr(char* str1, char* str2) {
 int cmp = strcmp(str1, str2);
 if (cmp < 0) return -1;
 if (cmp > 0) return 1;
 return 0;
}

int main() {
 char* str1 = "hello";
 char* str2 = "world";
 int cmp = compstr(str1, str2);
 if (cmp < 0) printf("str1 is less than str2");
 if (cmp > 0) printf("str1 is greater than str2");
 if (cmp == 0) printf("str1 is equal to str2");
 return 0;
}

5) 3, 37, 5, 42, 40, 50, 40, 60, 70

1. $T = [3]$

2. $T = [37, 3]$

3. $T = [37, 3, 5]$

4. $T = [40, 37, 5, 3]$

5. $T = [42, 40, 5, 3, 37]$

6. $T = [80, \underline{40}, \underline{42}, \underline{3}, \underline{37}, 5]$

7. $T = [80, \underline{40}, \underline{50}, \underline{3}, \underline{37}, \underline{5}, \underline{42}]$

8. $T = [80, 40, 50, 40, 37, 5, 42, 3]$

9. $T = [80, \underline{60}, \underline{50}, \underline{40}, \underline{37}, \underline{5}, \underline{42}, \underline{3}, \underline{40}]$

10. $T = [80, 70, 50, 40, 60, 5, 42, 3, 40, 37]$