PL UID: 0

Question 1: tree_traversal_find_all

Question 1.1: In-Order

{"tree": "digraph {\nranksep=0.25;\nnode [shape=circle fontsize=18 margin=\"0.03,0.03\"]\nedge [arrowsize=0.5]\n 6 [label=\"L\"]6 -> 1 [arrowsize=0.5]\n 1 [label=\"H\"]1 -> 0 [arrowsize=0.5]\n 0 [label=\"W\"]invis_1_2 [label=\"\",width=.1,style=invis]\n1 -> invis_1_2 [style=invis]\n1 -> 4\n 4 [label=\"I\"]4 -> 3 [arrowsize=0.5]\n 3 [label=\"V\"]3 -> 2 [arrowsize=0.5]\n 2 [label=\"O\"]invis_3_2 [label=\"\",width=.1,style=invis]\n3 -> invis_3_2 [style=invis]\ninvis_3_3 [label=\"\",width=.1,style=invis]\n3 -> invis_3_3 [style=invis]\ninvis_4_2 [label=\"\",width=.1,style=invis]\n4 -> invis_4_2 [style=invis]\n4 -> 5\n 5 [label=\"L\"]invis_6_2 [label=\"\",width=.1,style=invis]\n6 -> invis_6_2 [style=invis]\n6 -> 7\n 7 [label=\"E\"]\n}"}

INCORRECT

Expected: WHOVILLE

wretwetrwretert

Question 1.2: Post-Order

{"tree": "digraph {\nranksep=0.25;\nnode [shape=circle fontsize=18 margin=\"0.03,0.03\"]\nedge [arrowsize=0.5]\n 6 [label=\"L\"]6 -> 1 [arrowsize=0.5]\n 1 [label=\"H\"]1 -> 0 [arrowsize=0.5]\n 0 [label=\"W\"]invis_1_2 [label=\"\",width=.1,style=invis]\n1 -> invis_1_2 [style=invis]\n1 -> 4\n 4 [label=\"I\"]4 -> 3 [arrowsize=0.5]\n 3 [label=\"V\"]3 -> 2 [arrowsize=0.5]\n 2 [label=\"O\"]invis_3_2 [label=\"\",width=.1,style=invis]\n3 -> invis_3_2 [style=invis]\ninvis_3_3 [label=\"\",width=.1,style=invis]\n3 -> invis_3_3 [style=invis]\ninvis_4_2 [label=\"\",width=.1,style=invis]\n4 -> invis_4_2 [style=invis]\n4 -> 5\n 5 [label=\"L\"]invis_6_2 [label=\"\",width=.1,style=invis]\n6 -> invis_6_2 [style=invis]\n6 -> 7\n 7 [label=\"E\"]\n}"}

INCORRECT

Expected: WHOVILLE

rerorerorero

Question 1.3: Level-Order

{"tree": "digraph {\nranksep=0.25;\nnode [shape=circle fontsize=18 margin=\"0.03,0.03\"]\nedge [arrowsize=0.5]\n 6 [label=\"L\"]6 -> 1 [arrowsize=0.5]\n 1 [label=\"H\"]1 -> 0 [arrowsize=0.5]\n 0 [label=\"W\"]invis_1_2 [label=\"\",width=.1,style=invis]\n1 -> invis_1_2 [style=invis]\n1 -> 4\n 4 [label=\"I\"]4 -> 3 [arrowsize=0.5]\n 3 [label=\"V\"]3 -> 2 [arrowsize=0.5]\n 2 [label=\"O\"]invis_3_2 [label=\"\",width=.1,style=invis]\n3 -> invis_3_2 [style=invis]\ninvis_3_3 [label=\"\",width=.1,style=invis]\n3 -> invis_3_3 [style=invis]\ninvis_4_2 [label=\"\",width=.1,style=invis]\n4 -> invis_4_2 [style=invis]\n4 -> 5\n 5 [label=\"L\"]invis_6_2 [label=\"\",width=.1,style=invis]\n6 -> invis_6_2 [style=invis]\n6 -> 7\n 7 [label=\"E\"]\n}"}

INCORRECT

Expected: LHEWIVLO

435345

Question 2: h1_2020S_2a_msamericana

Question 2.1: Array A

No context provided.

PARTIAL

[]

['F', 'G', 'H', 'M', 'K', 'T', 'D', 'B']

Question 2.2: InvB

{"res1": [{"key": "a", "html": "inv A(i)"}, {"key": "b", "html": "inv B(i)"}, {"key": "c", "html": "fact A"}, {"key": "d", "html": "fact B"}, {"key": "e", "html": "line 4"}, {"key": "f", "html": "line 5"}, {"key": "g", "html": "line 6"}], "res2": [{"key": "a", "html": "inv A(i)"}, {"key": "b", "html": "inv B(i)"}, {"key": "c", "html": "fact A"}, {"key": "d", "html": "fact B"}, {"key": "e", "html": "line 4"}, {"key": "f", "html": "line 5"}, {"key": "g", "html": "line 6"}], "res3": [{"key": "a", "html": "line 4"}, {"key": "b", "html": "line 5"}, {"key": "c", "html": "line 6"}], "res4": [{"key": "a", "html": "$\\Theta(1)$"}, {"key": "b", "html": "$\\Theta(\\log n)$"}, {"key": "c", "html": "$\\Theta(n)$"}, {"key": "d", "html": "$\\Theta(n\\log n)$"}, {"key": "e", "html": "$\\Theta(n^2)$"}, {"key": "f", "html": "None of these answers is correct."}], "res5": [{"key": "a", "html": "inv B(i)"}, {"key": "b", "html": "inv A(i)"}], "_required_file_names": ["playListAns.cpp", "mdtest.md", "picture.png"]}

PARTIAL

Expected:

345

Question 2.3: res1

a:inv A(i)b:inv B(i)c:fact Ad:fact Be:line 4f:line 5g:line 6

PARTIAL

Expected Answer(s)

b:inv B(i)c:fact Ad:fact B

["

Question 2.4: res2

[{"key": "a", "html": "inv A(i)"}, {"key": "b", "html": "inv B(i)"}, {"key": "c", "html": "fact A"}, {"key": "d", "html": "fact B"},

{"key": "e", "html": "line 4"}, {"key": "f", "html": "line 5"}, {"key": "g", "html": "line 6"}]

PARTIAL

Expected: {'key': 'c', 'html': 'fact A'}

b

Question 2.5: res3

[{"key": "a", "html": "line 4"}, {"key": "b", "html": "line 5"}, {"key": "c", "html": "line 6"}]

PARTIAL

Expected: {'key': 'c', 'html': 'line 6'}

b

Question 2.6: res4

[{"key": "a", "html": "$\\Theta(1)$"}, {"key": "b", "html": "$\\Theta(\\log n)$"}, {"key": "c", "html": "$\\Theta(n)$"}, {"key": "d", "html": "$\\Theta(n\\log n)$"}, {"key": "e", "html": "$\\Theta(n^2)$"}, {"key": "f", "html": "None of these answers is correct."}]

PARTIAL

Expected: {'key': 'e', 'html': '$\\Theta(n^2)$'}

b

Question 2.7: res5

[{"key": "a", "html": "inv B(i)"}, {"key": "b", "html": "inv A(i)"}]

PARTIAL

Expected: {'key': 'b', 'html': 'inv A(i)'}

b

Question 2.8: InvAL

No context provided.

PARTIAL

No expected answer provided.

InvAL: 5

Variables: []

Question 2.9: InvAU

No context provided.

PARTIAL

No expected answer provided.

InvAU: 5

Variables: []

Question 2.10: variL

No context provided.

PARTIAL

No expected answer provided.

variL: 4

Variables: []

Question 2.11: variU

No context provided.

PARTIAL

No expected answer provided.

variU: 5

Variables: []

Question 2.12: basecase

No context provided.

PARTIAL

No expected answer provided.

basecase: 345

Variables: []

Question 2.13: iteration

No context provided.

PARTIAL

No expected answer provided.

iteration: 0

Variables: []

Question 2.14: findNextTrueL

No context provided.

PARTIAL

No expected answer provided.

findNextTrueL: 2

Variables: []

Question 2.15: findNextTrueU

No context provided.

PARTIAL

No expected answer provided.

findNextTrueU: 0

Variables: []

Question 2.16: findNextFalseL

No context provided.

PARTIAL

No expected answer provided.

findNextFalseL: 243

Variables: []

Question 2.17: findNextFalseU

No context provided.

PARTIAL

No expected answer provided.

findNextFalseU: 243

Variables: []

Question 2.18: findNextFunTrue

{"res1": [{"key": "a", "html": "inv A(i)"}, {"key": "b", "html": "inv B(i)"}, {"key": "c", "html": "fact A"}, {"key": "d", "html": "fact B"}, {"key": "e", "html": "line 4"}, {"key": "f", "html": "line 5"}, {"key": "g", "html": "line 6"}], "res2": [{"key": "a", "html": "inv A(i)"}, {"key": "b", "html": "inv B(i)"}, {"key": "c", "html": "fact A"}, {"key": "d", "html": "fact B"}, {"key": "e", "html": "line 4"}, {"key": "f", "html": "line 5"}, {"key": "g", "html": "line 6"}], "res3": [{"key": "a", "html": "line 4"}, {"key": "b", "html": "line 5"}, {"key": "c", "html": "line 6"}], "res4": [{"key": "a", "html": "$\\Theta(1)$"}, {"key": "b", "html": "$\\Theta(\\log n)$"}, {"key": "c", "html": "$\\Theta(n)$"}, {"key": "d", "html": "$\\Theta(n\\log n)$"}, {"key": "e", "html": "$\\Theta(n^2)$"}, {"key": "f", "html": "None of these answers is correct."}], "res5": [{"key": "a", "html": "inv B(i)"}, {"key": "b", "html": "inv A(i)"}], "_required_file_names": ["playListAns.cpp", "mdtest.md", "picture.png"]}

PARTIAL

Expected:

9

Question 2.19: findNextFunFalse

{"res1": [{"key": "a", "html": "inv A(i)"}, {"key": "b", "html": "inv B(i)"}, {"key": "c", "html": "fact A"}, {"key": "d", "html": "fact B"}, {"key": "e", "html": "line 4"}, {"key": "f", "html": "line 5"}, {"key": "g", "html": "line 6"}], "res2": [{"key": "a", "html": "inv A(i)"}, {"key": "b", "html": "inv B(i)"}, {"key": "c", "html": "fact A"}, {"key": "d", "html": "fact B"}, {"key": "e", "html": "line 4"}, {"key": "f", "html": "line 5"}, {"key": "g", "html": "line 6"}], "res3": [{"key": "a", "html": "line 4"}, {"key": "b", "html": "line 5"}, {"key": "c", "html": "line 6"}], "res4": [{"key": "a", "html": "$\\Theta(1)$"}, {"key": "b", "html": "$\\Theta(\\log n)$"}, {"key": "c", "html": "$\\Theta(n)$"}, {"key": "d", "html": "$\\Theta(n\\log n)$"}, {"key": "e", "html": "$\\Theta(n^2)$"}, {"key": "f", "html": "None of these answers is correct."}], "res5": [{"key": "a", "html": "inv B(i)"}, {"key": "b", "html": "inv A(i)"}], "_required_file_names": ["playListAns.cpp", "mdtest.md", "picture.png"]}

PARTIAL

Expected:

9

Question 2.20: required_files

PARTIAL

playListAns.cpp

```
void playList(vector<char> &A)

{

    bool Tay = // YOUR CODE HERE!!

        for (int i = 1; i < A.size(); i++)

    {

        int next = findNext(A, i, Tay);

        swap(A[next], A[i]);

        Tay = !Tay;

    }

}
```

Phrase Emphasis

Markdown: Some of these words are emphasized. Some of these words are emphasized also. Use two asterisks for strong emphasis. Or, if you prefer, use two underscores instead.

Lists

- Red
- Green
- Blue

Ordered (numbered) lists use regular numbers, followed by periods, as list markers:

1. Red
2. Green
3. Blue

Code

```
This is a code indent!
```

To specify an entire block of pre formatted code, indent every line of the block by 4 spaces or 1 tab. Just like with code spans, &, <, and > characters will be escaped automatically.

picture.png

Question 3: lq02_2a_bestworst

Question 3.1: students

[{"key": "a", "html": "\n The best case running time of this function is $\\Omega(n)$.\n "}, {"key": "b", "html": "\n

The worst case running time of this function is $\\Omega(n)$.\n "}]

INCORRECT

Expected: [{'key': 'b', 'html': '\n The worst case running time of this function is $\\Omega(n)$.\n '}]

a

Question 1: lq03_1a_inssortitnum

Question 1.1: int_value

{"a": [14, 42, 95, 95, 95, 30, 97, 95, 91, 21, 76, 82, 57, 61, 0, 56]}

INCORRECT

Expected: 5

98