Lab 2 Task 3 Question - almost there?

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discussion posted about 9 hours ago by KarenWest

I have an error at time=2 for RT{3} but when I went through all the below numbers, it seems correct to me, but of course, I'm wrong - does anyone know where I went wrong here?

% RT{linked}(k,2) = cost of neighbor linked to get to node k = A

% RT{n}(k,2) = cost of node n to get to node k = B = cost

% RT{n}(linked,2) = cost of node n to get to node linked = C

% if cost of B > cost of (A + C) then update route cost of n to A+C

```
            A = RT{linked}(k,2);
            B = RT{n}(k,2);
            C = RT{n}(linked,2);
            if (B > A + C) || ((B == inf) && (A ~= inf) && (C ~=
inf))
                RT{n}(k,2) = A + C;
                RT{n}(k,1) = linked;
            end
```

output error - The variable RT{3} at time 2 is incorrect - ?? - seems correct to me?

Node 1: neighbors: 2,3,4 costs: 2,5,1

RT{1}

```
time1:    time2:      time3:
0 0        0 0        0 0
2 2        2 2        2 2
4 4        4 3        4 3
4 1        4 1        4 1
4 2        4 2        4 2
3 10       4 4        4 4
```

Node 2: neighbors: 1,3,4 costs: 2,3,2

RT{2}

```
time1:      time2:      time3:
1 2          1 2         1 2
0 0          0 0         0 0
3 3          3 3         3 3
4 2          4 2         4 2
4 3          4 3         4 3
3 8          4 5         4 5
```

Node 3: neighbors: 1,2,4,5,6 costs: 5,3,3,1,5

RT{3}

```
time1:      time2:      time3:
4 4          4 3           4 3
2 3          2 3           2 3
0 0          0 0           0 0
5 2          5 2           5 2
5 1          5 1           5 1
5 3          5 3           5 3
```

Node 4: neighbors: 1,2,3,5 costs: 1,2,3,1

RT{4}

```
time1:    time2:    time3:
1 1          1 1         1 1
2 2          2 2          2 2
5 2          5 2          5 2
0 0          0 0          0 0
5 1          5 1          5 1
5 3          5 3          5 3
```

Node 5: neighbors: 3,4,6 costs: 1,1,2

RT{5}

```
time1:      time2:       time3:
4 2          4 2             4 2
4 3          4 3             4 3
3 1          3 1             3 1
4 1          4 1             4 1
0 0          0 0             0 0
6 2          6 2             6 2
```

Node 6: neighbors: 3,5 costs: 5,2

RT{6}

```
time1:      time2:      time3:
5 4           5 4            5 4
5 5           5 5            5 5
5 3           5 3            5 3
5 3           5 3            5 3
5 2           5 2            5 2
0 0           0 0            0 0
```

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3 responses

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vinothbabu

about 5 hours ago

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You use this C = cost; if (B > A + C)

yes correct - I spent too much time with my response and you answered quickly and simply.

posted about 4 hours ago by **PeterB001**

Add a comment

PeterB001

about 4 hours ago

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Hi Karen,

You are almost there - read the question again, carefully.

For each neighbor, which is referred to by the variable linked and which it can reach with the value stored in **cost**

In your case 'A' is the cost for 'linked' to 'k'. However if you assigned

```
A = cost + RT{linked}(k,2);
```

Then 'A' becomes the cost from 'n' to 'k' through 'linked' and your IF statement becomes `if(A<B)` and eliminated 'C' in the program - including assignment of the new cost.

Regards

Peter

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aredirl

about an hour ago

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Just make one substitution as shown below

```
        A = RT{linked}(k,2);
        B = RT{n}(k,2);
        C = cost;
```

It works...

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KarenWest

about an hour ago

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Thank you all for your helpful responses! It now works.

I changed:

```
        A = RT{linked}(k,2);
        B = RT{n}(k,2);
        C = RT{n}(linked,2);
        if (B > A + C) || ((B == inf) && (A ~= inf)
&& (C ~= inf))
            RT{n}(k,2) = A + cost;
            RT{n}(k,1) = linked;
        end
```

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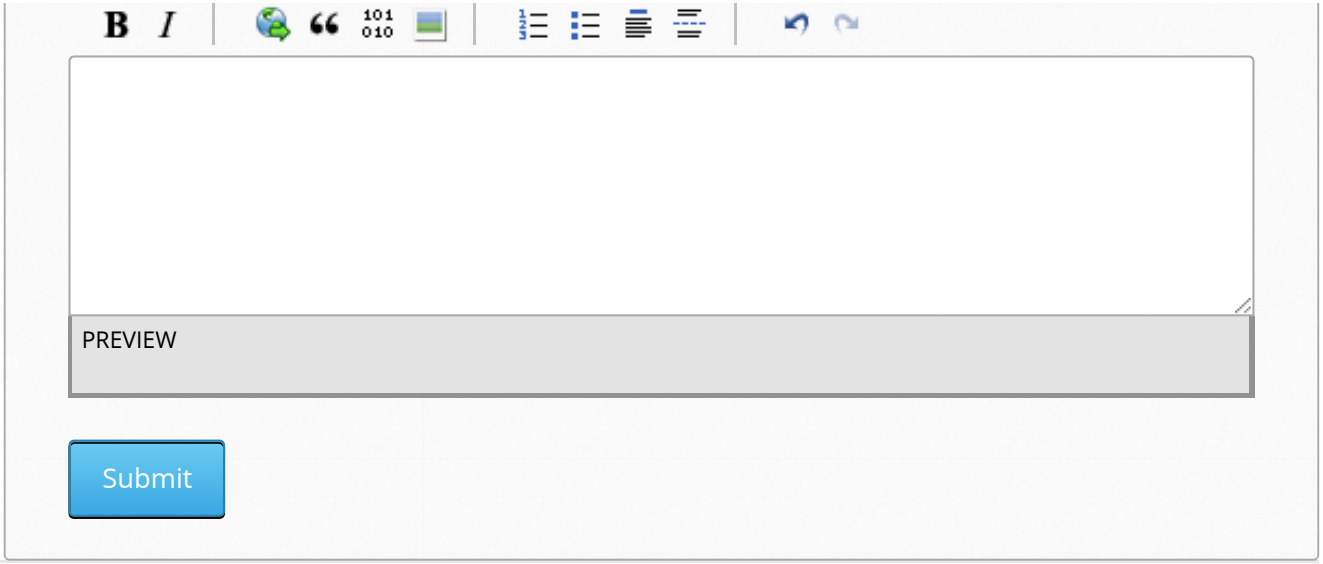

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