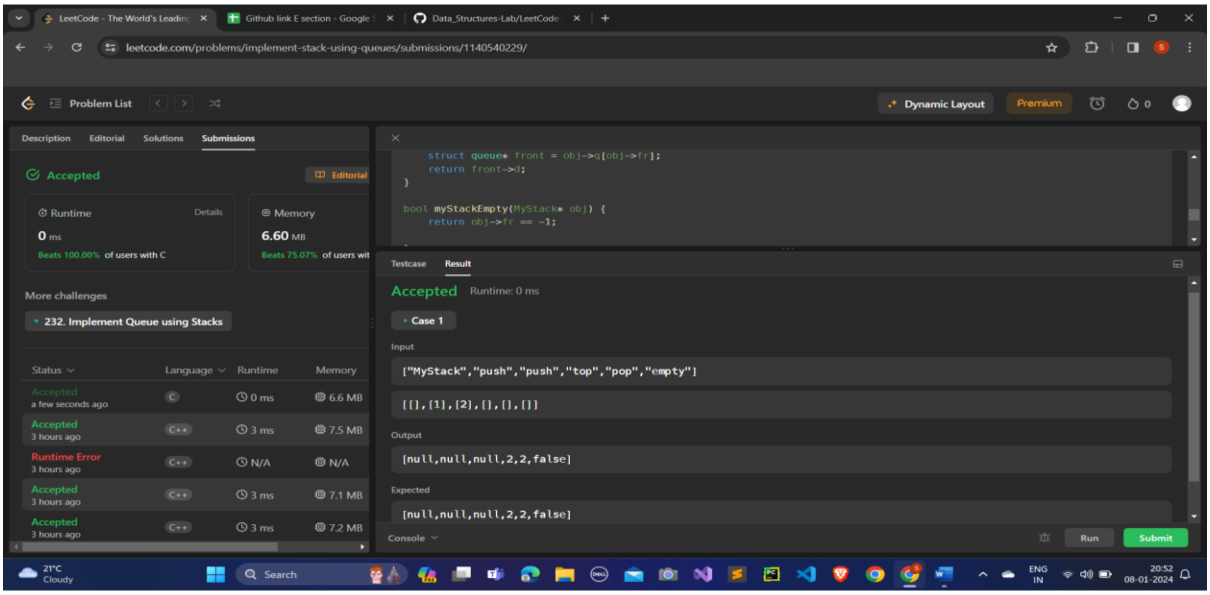
IMPLEMENTATION OF STACK USING QUEUE

```
struct queue{
   int d;
};
typedef struct {
   struct queue *q[100];
   int fr;
   int r;
}MyStack;
MyStack* myStackCreate() {
   MyStack *q1=(MyStack *)malloc(sizeof(MyStack));
   q1->fr=-1;
   q1->r=-1;
   return q1;
}

void push(MyStack* q1, struct queue* arr) {
   q1->q[++q1->r] = arr;
   if (q1->fr == -1) {
      q1->fr = 0;
   }
}

struct queueNode* pop(MyStack* q1) {
   struct queue* arr = q1->q[q1->fr];
   if (q1->fr == q1->r) {
      q1->fr = q1->r = -1;
   } else {
      q1->fr++;
```

```
    }
    return arr;
}
void myStackPush(MyStack* obj, int x) {
    struct queue* qu= (struct queue*) malloc(sizeof(struct queue));
    qu->d = x;
    push(obj, qu);
    int size = obj->r - obj->fr + 1;
    while (size > 1) {
    struct queue* fr = pop(obj);
    push(obj, fr);
    size--;
    }
}

int myStackPop(MyStack* obj) {
    struct queue* front = pop(obj);
    int x = front->d;
    return x;
}

int myStackTop(MyStack* obj) {
    struct queue* front = obj->q[obj->fr];
    return front->d;
}

bool myStackEmpty(MyStack* obj) {
    return obj->fr == -1;
```

```
}

void myStackFree(MyStack* obj) {
    free(obj);
}

/**
 * Your MyStack struct will be instantiated and called as such:
 * MyStack* obj = myStackCreate();
 * myStackPush(obj, x);

 * int param_2 = myStackPop(obj);

 * int param_3 = myStackTop(obj);

 * bool param_4 = myStackEmpty(obj);

 * myStackFree(obj);
*/
```



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- 232. Implement Queue using Stacks

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```
    struct queue* front = obj->q[obj->fr];
    return front->d;
}

bool myStackEmpty(MyStack* obj) {
    return obj->fr == -1;
```

Accepted Runtime: 0 ms

Case 1

Input

```
["MyStack","push","push","top","pop","empty"]
```

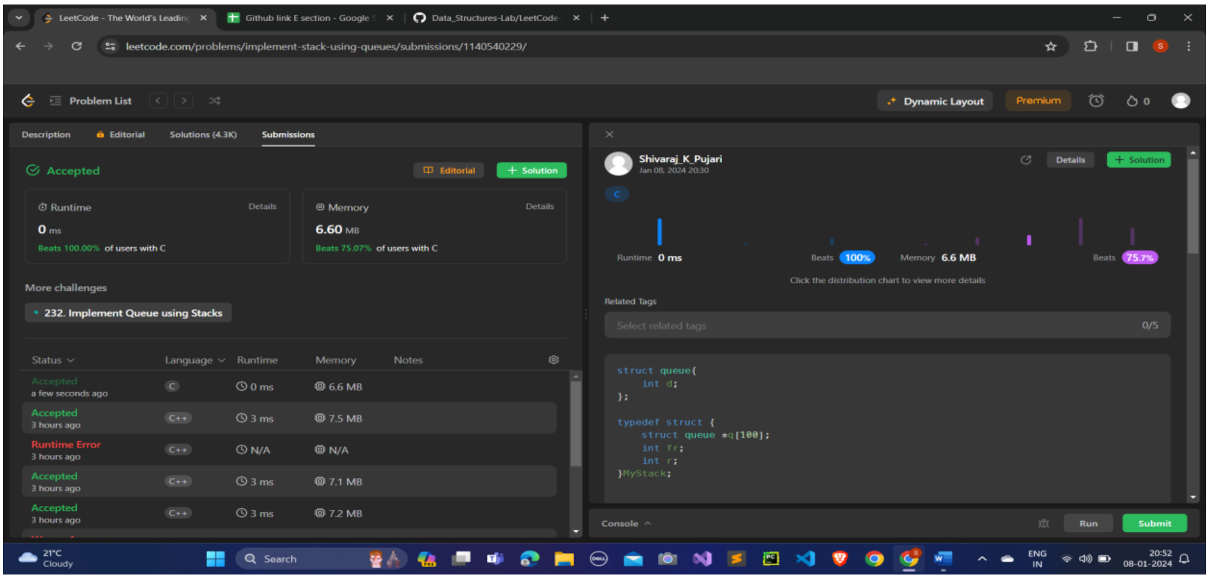
```
[[],[1],[2],[],[],[]]
```

Output

```
[null,null,null,2,2,false]
```

Expected

```
[null,null,null,2,2,false]
```



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Shivaraj_K_Pujari
Jan 08, 2024 20:30

C

Runtime 0 ms Beats 100%
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