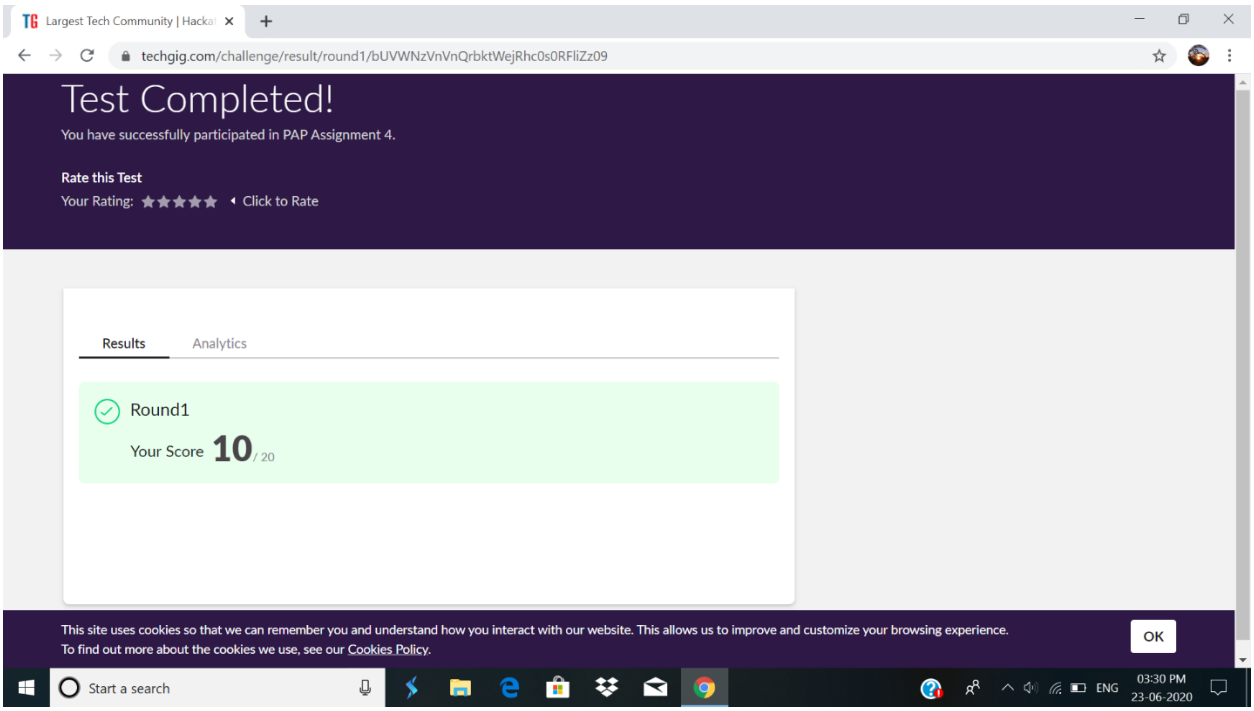
DAILY ONLINE ACTIVITIES SUMMARY

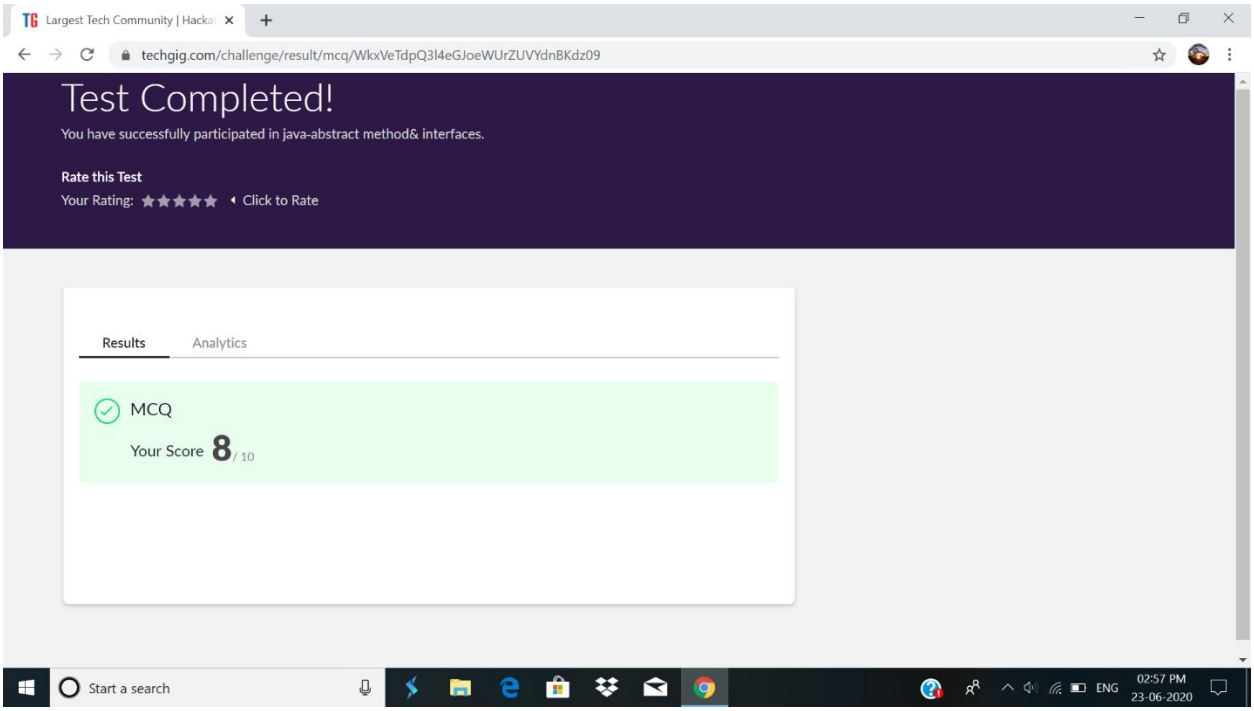
Date:	**23-06-2020**	**Name:**	**Anvitha Poojary**
Sem & Sec	**6A**	**USN:**	**4AL17CS008**
Online Test Summary			
Subject	**PAP assignment test**		
Max. Marks	**20**	**Score**	**10**
Certification Course Summary			
Course	**JAVA**		
Certificate Provider		**Duration**	
Coding Challenges			
Problem Statement: 1. Write a C Program to Sort a stack using a temporary stack			
Status: completed			
Uploaded the report in Github	**yes**		
If yes Repository name	https://github.com/anvithapo99/Daily-Report		
Uploaded the report in slack	**yes**		

Online test details:

Subject:PAP



JAVA Quiz details:



Coding Challenges Details:

1.Write a C Program to Sort a stack using a temporary stack

We follow this algorithm.

1. Create a temporary stack say tmpStack.
2. While input stack is NOT empty do this:
   • Pop an element from input stack call it temp
   • while temporary stack is NOT empty and top of temporary stack is greater than temp,
   pop from temporary stack and push it to the input stack
   • push temp in temporary stack
3. The sorted numbers are in tmpStack

```
#include <stdio.h>

#include <stdlib.h>


struct stack

{

   int data;

   struct stack *next;

};


void initStack(struct stack **s)

{

   *s = NULL;

}


int isEmpty(struct stack *s)

{
```

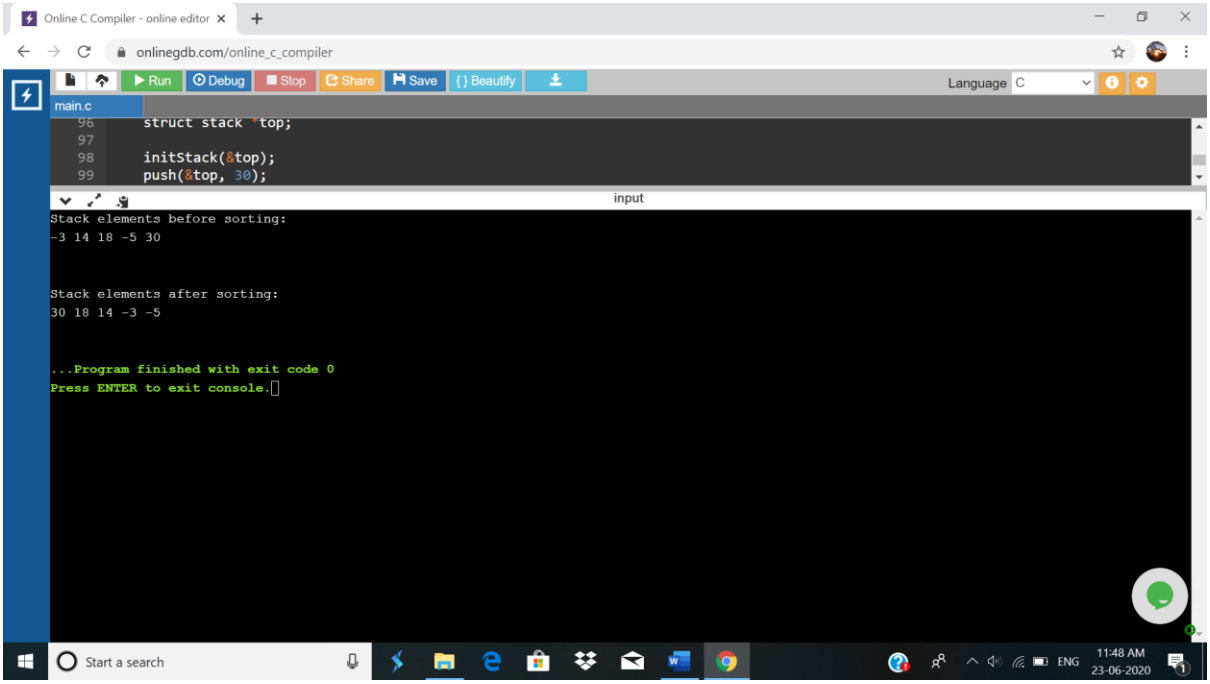
```
    if (s == NULL)
        return 1;
    return 0;
}

void push(struct stack **s, int x)
{
    struct stack *p = (struct stack *)malloc(sizeof(*p));

    if (p == NULL)
    {
        fprintf(stderr, "Memory allocation failed.\n");
        return;
    }

    p->data = x;
    p->next = *s;
    *s = p;
}

int pop(struct stack **s)
{
    int x;
    struct stack *temp;
```

```
    x = (*s)->data;
    temp = *s;
    (*s) = (*s)->next;
    free(temp);

    return x;
}

int top(struct stack *s)
{
    return (s->data);
}

void sortedInsert(struct stack **s, int x)
{

    if (isEmpty(*s) || x > top(*s))
    {
        push(s, x);
        return;
    }

    int temp = pop(s);
    sortedInsert(s, x);
```

```
    push(s, temp);
}

void sortStack(struct stack **s)
{
    if (!isEmpty(*s))
    {
        int x = pop(s);

        sortStack(s);

        sortedInsert(s, x);
    }
}

void printStack(struct stack *s)
{
    while (s)
    {
        printf("%d ", s->data);
        s = s->next;
    }

    printf("\n");
```

```
}

int main(void)
{
    struct stack *top;

    initStack(&top);
    push(&top, 30);
    push(&top, -5);
    push(&top, 18);
    push(&top, 14);
    push(&top, -3);

    printf("Stack elements before sorting:\n");
    printStack(top);

    sortStack(&top);
    printf("\n\n");

    printf("Stack elements after sorting:\n");
    printStack(top);

    return 0;

}
```

Output:


Online C Compiler - online editor
onlinegdb.com/online_c_compiler
Run
Debug
Stop
Share
Save
{ } Beautify
Language C
main.c
struct stack *top;
initStack(&top);
push(&top, 30);
input
Stack elements before sorting:
-3 14 18 -5 30
Stack elements after sorting:
30 18 14 -3 -5
...Program finished with exit code 0
Press ENTER to exit console.
Start a search
ENG
11:48 AM
23-06-2020