
 Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Sem : 3	Name : VEDANT BHARAD	
Day : 36	Date : 25/11/2022	Enrollment No: 92100133023

CP Club 365Days Challenge

Date – 25/11/2022
Programming language – C


Problem Statement

<https://www.hackerrank.com/challenges/utopian-tree/problem?isFullScreen=true>

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Your Code:

```
// 0x39Day of 0x365Days challenge
// VEDANT BHARAD
// 25-11-2022
#include <assert.h>
#include <ctype.h>
#include <limits.h>
#include <math.h>
#include <stdbool.h>
#include <stddef.h>
#include <stdint.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
char *getline();
char *ltrim(char *);
char *rtrim(char *);
int parse_int(char *);
int utopianTree(int n)
{
    int h=0;
    for(int loop=0;loop<=n;loop++){
        if(loop%2==0){
            h++;
        }
        else{
            h=h*2;
        }
    }
    return h;
}
int main()
{
    FILE *fptr = fopen(getenv("OUTPUT_PATH"), "w");
    int t = parse_int(ltrim(rtrim(readline())));
    for (int t_itr = 0; t_itr < t; t_itr++)
    {
        int n = parse_int(ltrim(rtrim(readline())));
        int result = utopianTree(n);
        // fprintf(fptr, "%d\n", result);
        printf("%d\n", result);
    }
    fclose(fptr);
    return 0;
}
char *getline()
{
    size_t alloc_length = 1024;
    size_t data_length = 0;
    char *data = malloc(alloc_length);
    while (true)
    {
        char *cursor = data + data_length;
```


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```

char *line = fgets(cursor, alloc_length - data_length, stdin);
if (!line)
{
    break;
}
data_length += strlen(cursor);
if (data_length < alloc_length - 1 || data[data_length - 1] == '\n')
{
    break;
}
alloc_length <= 1;
data = realloc(data, alloc_length);
if (!data)
{
    data = '\0';
    break;
}
}
if (data[data_length - 1] == '\n')
{
    data[data_length - 1] = '\0';
    data = realloc(data, data_length);
    if (!data)
    {
        data = '\0';
    }
}
else
{
    data = realloc(data, data_length + 1);
    if (!data)
    {
        data = '\0';
    }
    else
    {
        data[data_length] = '\0';
    }
}
return data;
}

char *ltrim(char *str)
{
    if (!str)
    {
        return '\0';
    }
    if (!*str)
    {
        return str;
    }
    while (*str != '\0' && isspace(*str))
    {


```

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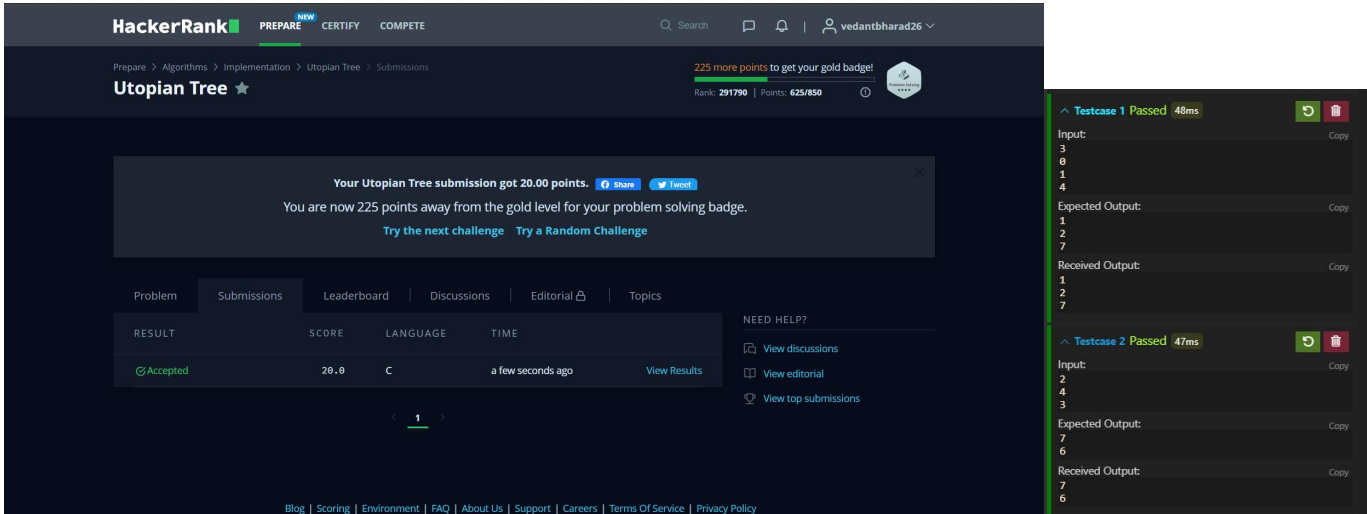
```

        str++;
    }
    return str;
}
char *rtrim(char *str)
{
    if (!str)
    {
        return '\0';
    }
    if (!*str)
    {
        return str;
    }
    char *end = str + strlen(str) - 1;
    while (end >= str && isspace(*end))
    {
        end--;
    }
    *(end + 1) = '\0';
    return str;
}
int parse_int(char *str)
{
    char *endptr;
    int value = strtol(str, &endptr, 10);
    if (endptr == str || *endptr != '\0')
    {
        exit(EXIT_FAILURE);
    }
    return value;
}

```

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Output (Screen Shot):



The screenshot shows the HackerRank interface for the 'Utopian Tree' problem. A notification banner states: 'Your Utopian Tree submission got 20.00 points. You are now 225 points away from the gold level for your problem solving badge.' Below this, a table shows the submission result: 'Accepted' with a score of '20.0' in 'C' language, submitted 'a few seconds ago'. To the right, the test cases are listed: 'Testcase 1 Passed 48ms' and 'Testcase 2 Passed 47ms'. Each test case shows the input, expected output, and received output.

Testcase	Status	Time
Testcase 1	Passed	48ms
Testcase 2	Passed	47ms

Understanding about problem:

1. In this task there will be two input first is number of test case and second is number of cycles n .
2. In this task I need to calculate height after every $n+1$ height will be $height+1$ if n is even else $height*2$.

Note: If you can't understand the problem, feel free to contact us and we'll help you. Please don't copy and paste from anywhere.

ALL THE BEST

Team CP Club