ACM training summer 2020 – schedule

**First week plan**

Introduction (Road map):

General talk about the ACM, encourage the students, test the student’s knowledge and helping them to determine their level

Maths:

1. Bit++: <https://codeforces.com/contest/282/problem/A>
2. HQ9+: <https://codeforces.com/contest/133/problem/A>
3. Square theater: <https://codeforces.com/contest/1/problem/A>
4. Team: <https://codeforces.com/contest/231/problem/A>
5. Watermelon: <https://codeforces.com/problemset/problem/110/A>
6. Perfect permutation: <https://codeforces.com/problemset/problem/233/A>

Strings:

1. Way too long words : <https://codeforces.com/contest/71/problem/A>
2. String task: <https://codeforces.com/contest/118/problem/A>
3. Petya and strings: <https://codeforces.com/contest/112/problem/A> \*
4. Word capitalization: <https://codeforces.com/problemset/problem/281/A>
5. Nearly lucky numbers: <https://codeforces.com/problemset/problem/110/A>
6. Keyboard: <https://codeforces.com/problemset/problem/474/A>

Sorting:

1. The New Year: Meeting Friends: <https://codeforces.com/problemset/problem/723/A>
2. Choosing teams: <https://codeforces.com/problemset/problem/432/A>

General weekly plan:

Create a messenger group to keep in touch with the students and send a question at specific time everyday after the planned weekly session

My first session will be on Thursday around 6 pm on Microsoft teams for 2 hours, I will start with a very simple and basic question to introduce how codeforces work, then explain 2 or 3 questions about math and 2 or 3 about strings.

**Strings:**

What are strings? Strings are objects that represent sequences of characters, surrounded by double quotations.

Some string functions:

**Length() 🡪** returns an integer the length of the string (how many chars in the string)

**at(i) ->** returns the char at i-th position.

\*\*we must announce that the first index in the string is 0

**begin() 🡪** return the address of the first char in the string

**end() 🡪** returns the address of the next location to the last char in the string

Example:

string x = “hello world”;

cout<<x.length(); // 11

cout<<x.at(1); // e

for(int i=0; i<x.length();i++){

cout<<x.at(i)<<endl; //this loop prints each char of the string in a line

}

**Sort:**

We use this function when we want to sort an object either in increasing or decreasing order

Syntax:

Sort(start address ,end address);

\*\*end address is always the first contiguous address next to the last address in the object.

Example:

Int Arr[3];

Arr[0] = 10;

Arr[1] = 50; address is memory location

Arr[2] = 80; \*\*we must announce that the address’s value is not the value that the address holds

|  |  |  |  |
| --- | --- | --- | --- |
| 10 | 50 | 80 |  |

Begin address end address