CSE 241 Homework Assignment 1

DUE

March 3, 2019, 23:55

Description

- This is an individual assignment. Please do not collaborate.
- If you think that this document does not clearly describe the assignment, ask questions before its too late.

You won't be given a chance to correct any mistakes.

- Write a C++ code which does the following:
  - Captures an integer from command line. Let this integer be `L`.
  - Prints the `fibonacci pyramid` which has `L+1` number of rows.
  - Prints the largest number in the pyramid.
  - Prints `the heart of the pyramid`.

Example

- User enters the following number:

```
9
```

- Your program prints the following:

```
1
1 1
2 1 2
3 2 2 3
5 3 4 3 5
8 5 6 6 5 8
13 8 10 9 10 8 13
21 13 16 15 15 16 13 21
34 21 26 24 25 24 26 21 34
55 34 42 39 40 40 39 42 34 55
Biggest number: 55
Heart of the pyramid: 6 6
```

Remarks

- Do not use any elements which is not covered in class.
- Do not submit your code without testing it with several different scenarios.
- Write comments in your code.

Turn in:

- Source code of a complete C++ program. Name of the file should be in this format: `<full_name>_<id>.cpp`.
- Example: `gokhan_kaya_000000.cpp`. Please do not use any Turkish special characters.
- You don't need to use an IDE for this assignment. Your code will be compiled and run in a command window.
- Your code will be compiled and tested on a Linux machine(Ubuntu). GCC will be used.
- Make sure you don't get compile errors when you issue this command : `g++ <full_name>_<id>.cpp`.

- A script will be used in order to check the correctness of your results. So, be careful not to violate the expected output format.
- Provide comments unless you are not interested in partial credit. (If I cannot easily understand your design, you may loose points.)
- You may not get full credit if your implementation contradicts with the statements in this document.

Late Submission

- `(0,24]` hours: `-20%`
- `(24,48]` hours: `-40%`
- `(48,72]` hours: `-60%`
- `(72,-)` hours: `-100%`

Grading (Tentative)

- `Max Grade` : `100`.
- Multiple tests(at least `5`) will be performed.

All of the followings are possible deductions from `Max Grade`.

- `#define HARD_CODED_VALUES -10`.
- No submission: `-100`. (be consistent in doing this and your overall grade will converge to `N/A`) (To be specific: if you miss `3` assignments you'll get `N/A`)
- Compile errors: `-100`.
- Irrelevant code: `-100`.
- Major parts are missing: `-100`.
- Unnecessarily long code: `-30`.
- Using language elements and libraries which are not allowed: `-100`.
- Not caring about the structure and efficiency: `-30`. (avoid using hard-coded values, avoid hard-to-follow expressions, avoid code repetition, avoid unnecessary loops).
- Significant number of compiler warnings: `-10`.
- Not commented enough: `-5`. (Comments are in English).
- Source code encoding is not `UTF-8` and characters are not properly displayed: `-5`. (You can use 'Visual Studio Code', 'Sublime Text', 'Atom' etc... Check the character encoding of your text editor and set it to `UTF-8`).
- Missing or wrong output values: `Fails the test`.
- Output format is wrong: `-30`.
- Infinite loop: `Fails the test`.
- Segmentation fault: `Fails the test`.
- Fails 5 or more random tests: `-100`.
- Fails the test: `deduction up to 20`.
- Prints anything extra: `-30`.
- Unwanted chars and spaces in `output.txt`: `-30`.
- Submission includes files other than the expected: `-10`.
- Submission does not follow the file naming convention: `-10`.
- Sharing or inheriting code: `-200`.