HSE CPP cource

Final cource project

Description

Implement basic class Shape, and subclasses: Rectangle, Triangle, Circle. Implement Matrix::draw(Shape&) method, which fill matrix by shape's pixels. if pixel is out of the matrix bound, this pixel is skipping while drawing shape at matrix.

Requirements

- compiler with C++17 features
- cmake
- OpenCV

Building

```
$ mkdir build && cd build
$ cmake ..
$ make -j4
```

Project structure

- `include` - contains classes definitions.
- `images` - contains sample HSE logo images.
- `src` - contains classes implementations.
- main.cpp - contains main function

Run the programs

Program runs without any attributes. Program draws tree pictures: bw mashroom, bw house, color house and color car. Press any button to draw next picture. Drawn pictures can be stretched.

Example of execution program with command line:
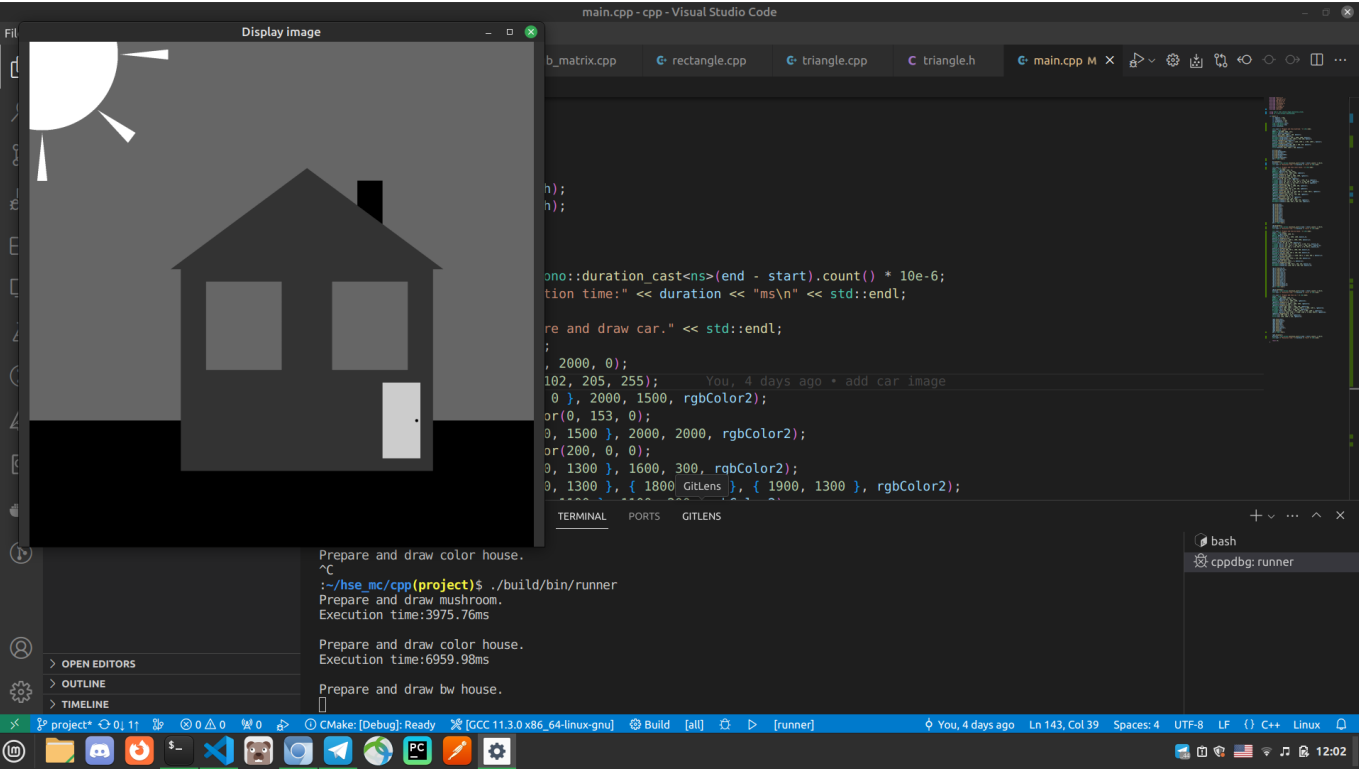
```
./build/bin/runner
```

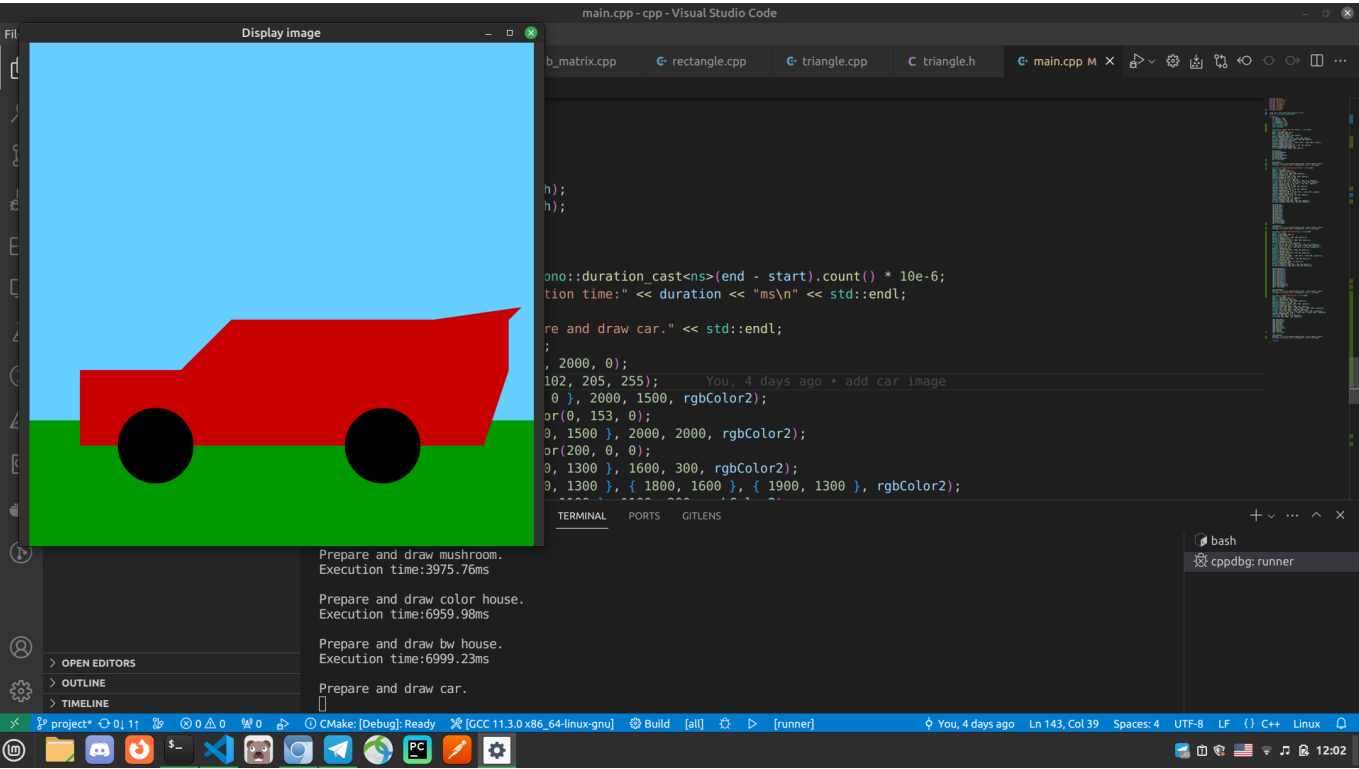Program writes perfomance time to terminal.

Examples

Picture appears in small size, you can stretch it. After run programm you can see first picture:

Press any button and see next picture:

Press any button and see next picture:

Press any button and see next picture:

Then you can see perfomance in the terminal:

```
:~/hse_mc/cpp(project)$ ./build/bin/runner
Prepare and draw mushroom.
Execution time:3975.76ms

Prepare and draw color house.  4 / 4
Execution time:6959.98ms

Prepare and draw bw house.
Execution time:6999.23ms

Prepare and draw car.
Execution time:6070.58ms
```