Minesweeper

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Contents

This README is also viewable at `https://github.com/jeremytsang1/minesweeper`.

1 Description

My personal implementation of the classic Minesweeper game.

2 Requirements

- Python >= 3.6

- For specific Python packages see `requirements.txt`.

3 Installation

3.1 Option 1: Local

- Unzip the `.zip` file.

- `cd` into the top root directory of the unzipped file.

- Install dependencies

  ```
  pip install -r requirements.txt
  ```
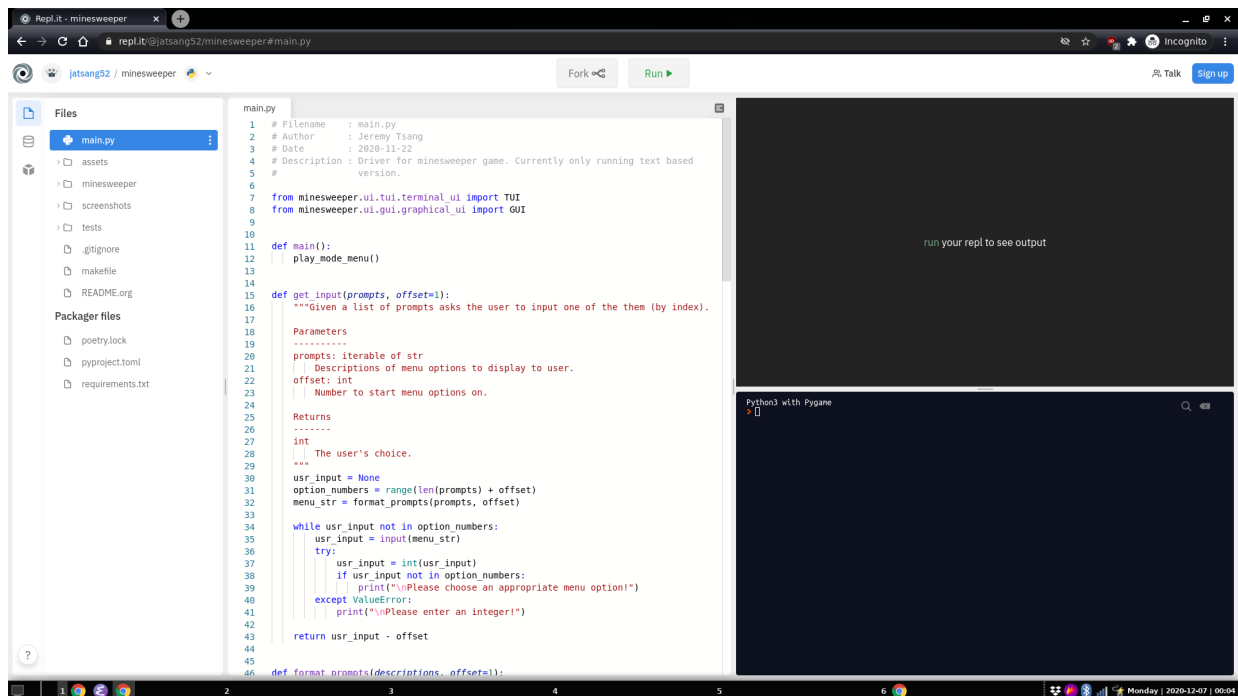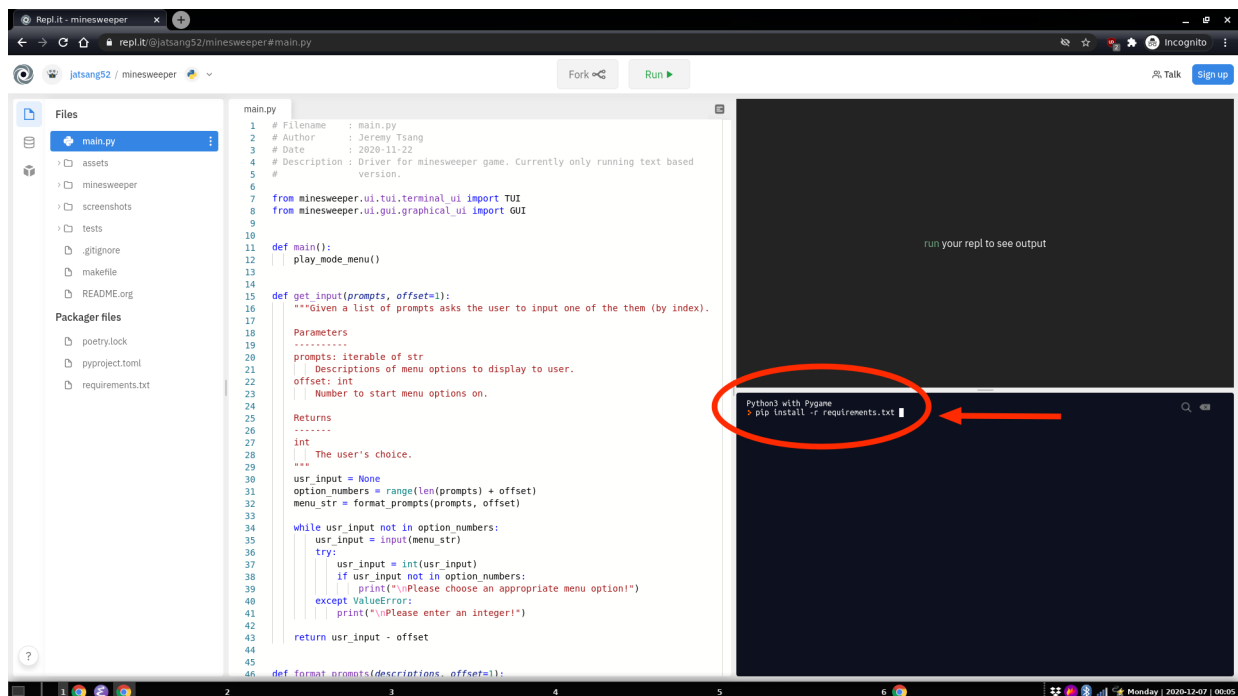
- Run the main script

  ```
  python3 main.py
  ```

- Follow instructions on terminal to choose TUI or GUI mode.

3.2 Option 2: `repl.it`

1. Navigate to the following link: `https://repl.it/@jatsang52/minesweeper#main.py`

2. In the repl.it terminal, install dependencies with `pip install -r requirements.txt`

3. After the installation completes press the `Run` button.
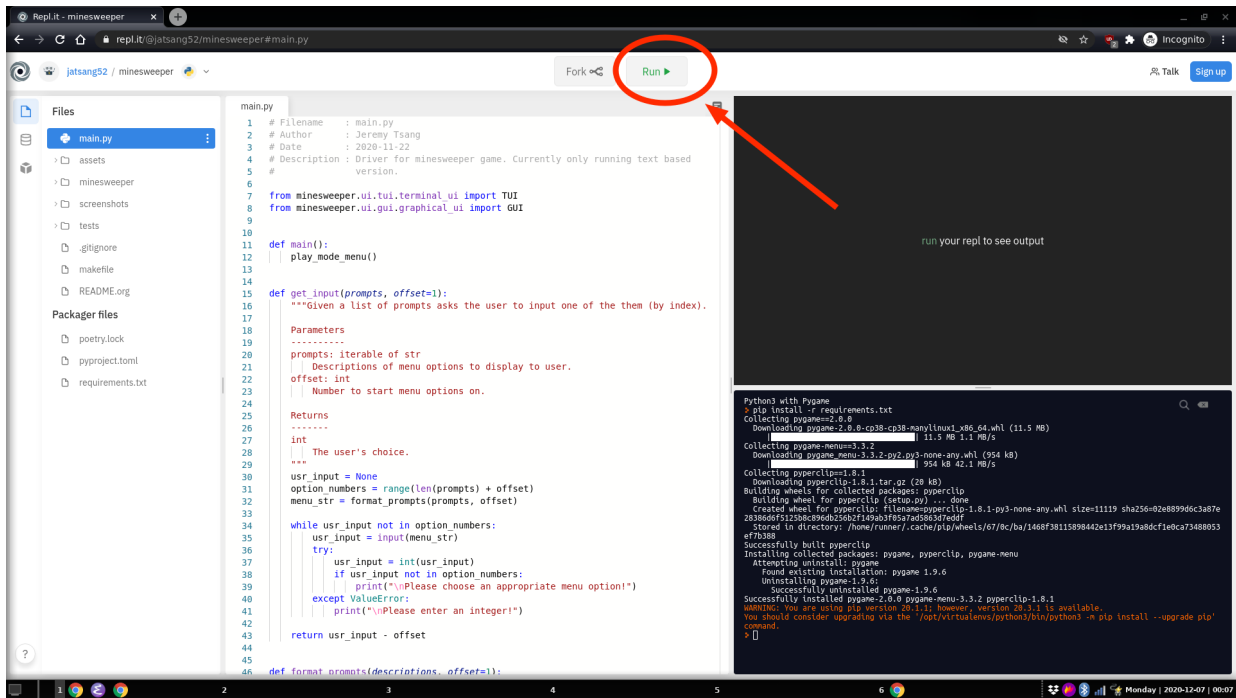
4. In the repl.it terminal choose TUI or GUI mode.
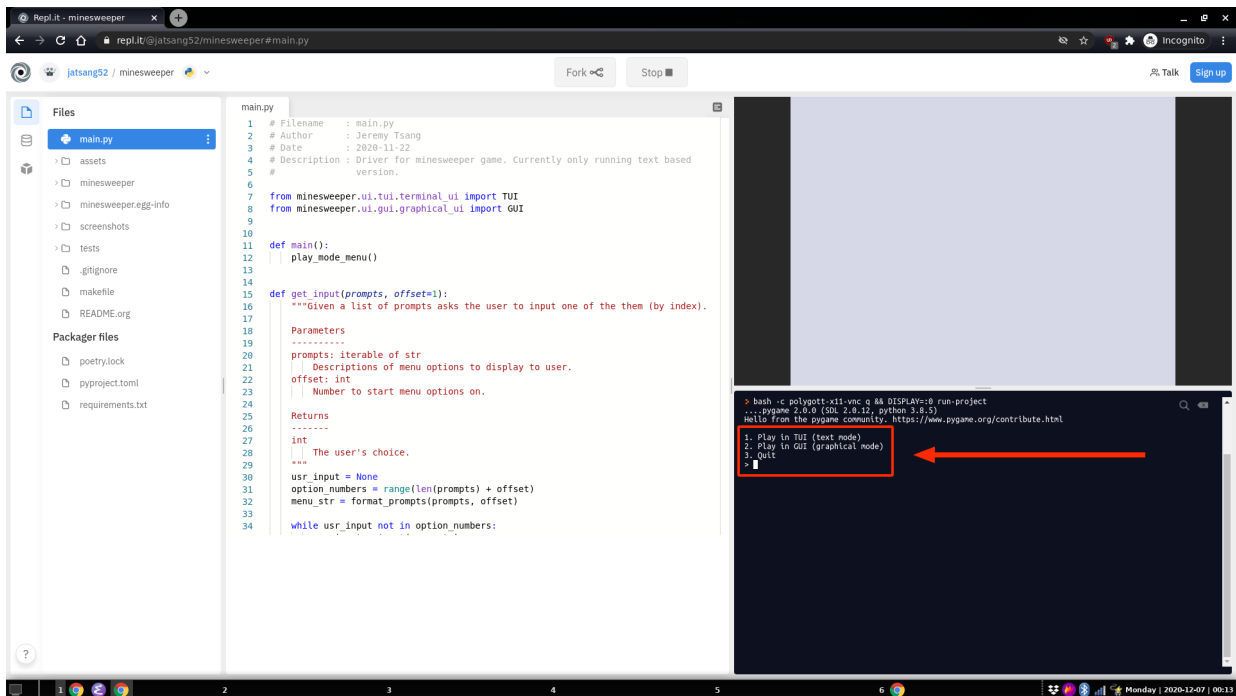
5. In the repl.it terminal if you choose GUI mode make sure to choose option 1 to disable sound (repl.it doesn't play nicely with pygame apps with sound)
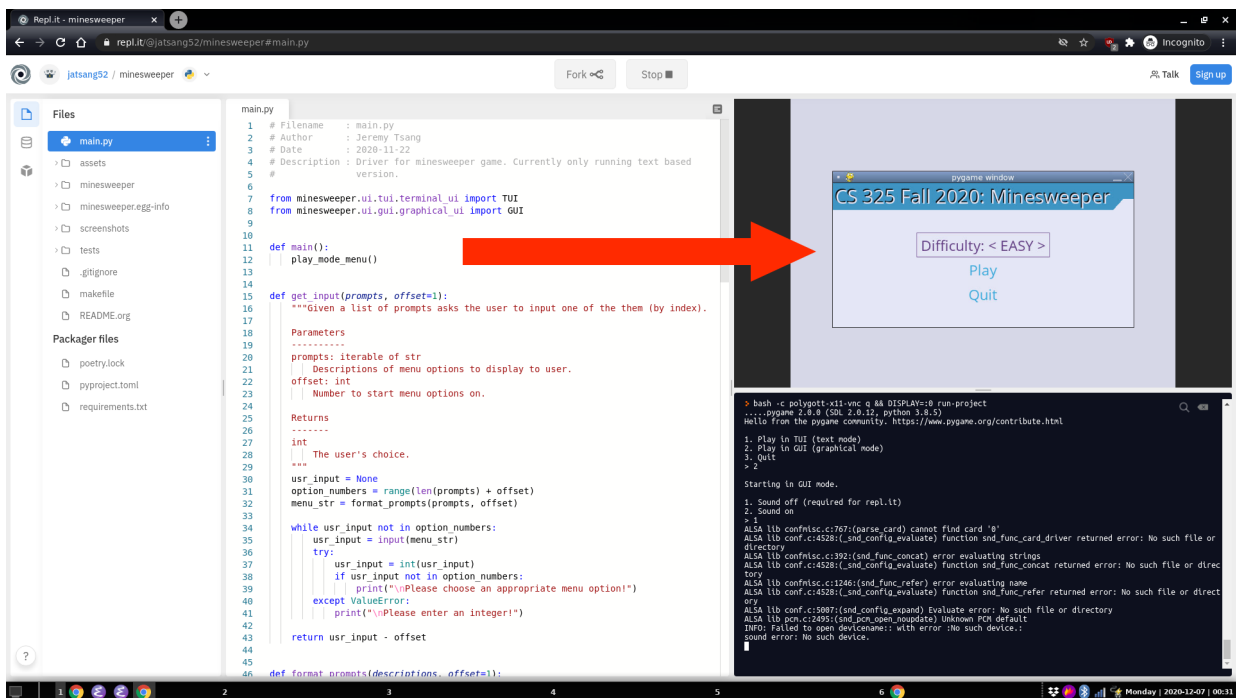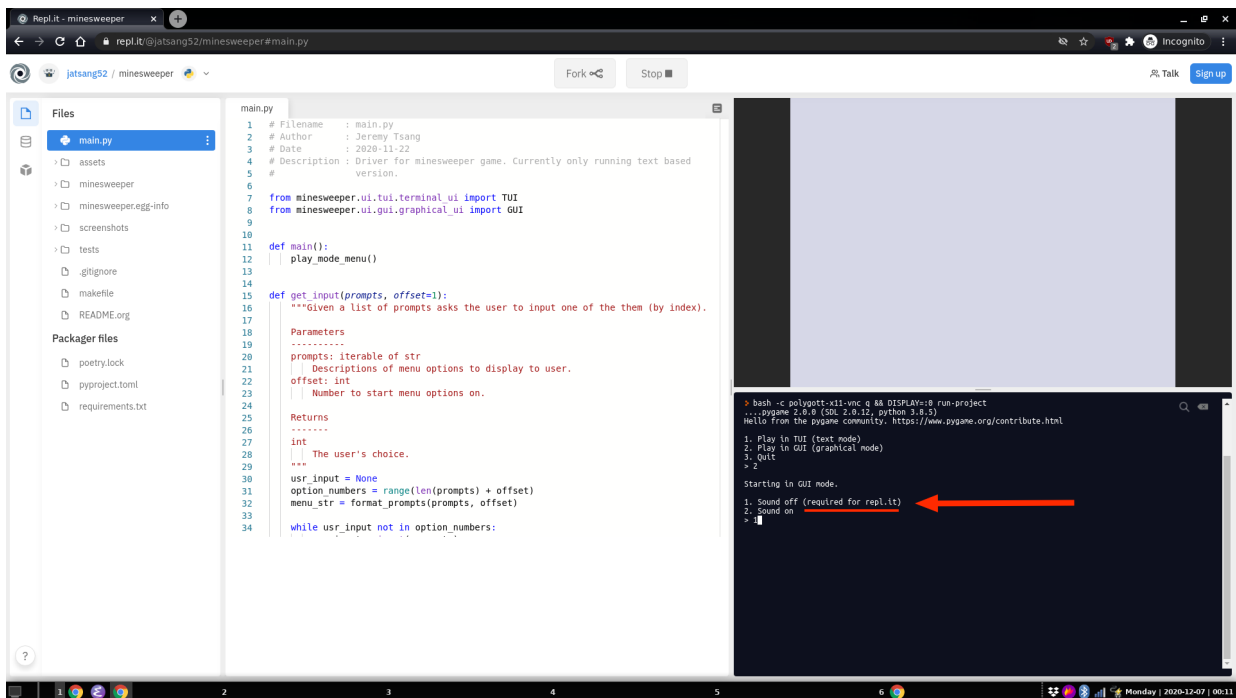
4 Modes

4.1 Terminal User Interface (TUI)

4.1.1 Controls

- Follow menu directions on screen.

4.1.2   Screenshots

- Starting an **EASY** difficulty game.

```
(minesweeper) jt ~/hw/minesweeper $ python main.py
pygame 2.0.0 (SDL 2.0.12, python 3.8.5)
Hello from the pygame community. https://www.pygame.org/contribute.html

1. Play in TUI (text mode)
2. Play in GUI (graphical mode)
3. Quit
> 1

Starting in TUI mode.

1. New game
2. Quit
> 1

1. Easy
2. Medium
3. Hard
4. Custom
> 1

Starting EASY game!
height: 10
 width: 10
 bombs: 10

(Legal) Turns taken: 0
|---+---+---+---+---+---+---+---+---+---+---|
|   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---+---+---+---+---+---+---+---+---+---+---|
| 0 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|
| 1 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|
| 2 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|
| 3 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|
| 4 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|
| 5 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|
| 6 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|
| 7 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|
| 8 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|
| 9 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---|

1. Open cell
2. Quit
> 1
```

```
Which row?
> 0
```

- Starting an **CUSTOM** difficulty game.

```
(minesweeper) jt ~/hw/minesweeper $ python main.py
pygame 2.0.0 (SDL 2.0.12, python 3.8.5)
Hello from the pygame community. https://www.pygame.org/contribute.html

1. Play in TUI (text mode)
2. Play in GUI (graphical mode)
3. Quit
> 1

Starting in TUI mode.

1. New game
2. Quit
> 1

1. Easy
2. Medium
3. Hard
4. Custom
> 4

How many rows?
> 18

How many cols?
> 12

How many bombs? (must be in the range [1 (inclusive) ... 216 (exclusive)])
> 45

Starting CUSTOM game!
height: 18
 width: 12
 bombs: 45

(Legal) Turns taken: 0
|---+---+---+---+---+---+---+---+---+---+---+---+---|
|   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10| 11|
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 0 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 1 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 2 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 3 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 4 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 5 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 6 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 7 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 8 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 9 | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 10| ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
| 11| ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? | ? |
|---+---+---+---+---+---+---+---+---+---+---+---+---|
```

4.1.3 Video

Youtube: Minesweeper TUI Demo

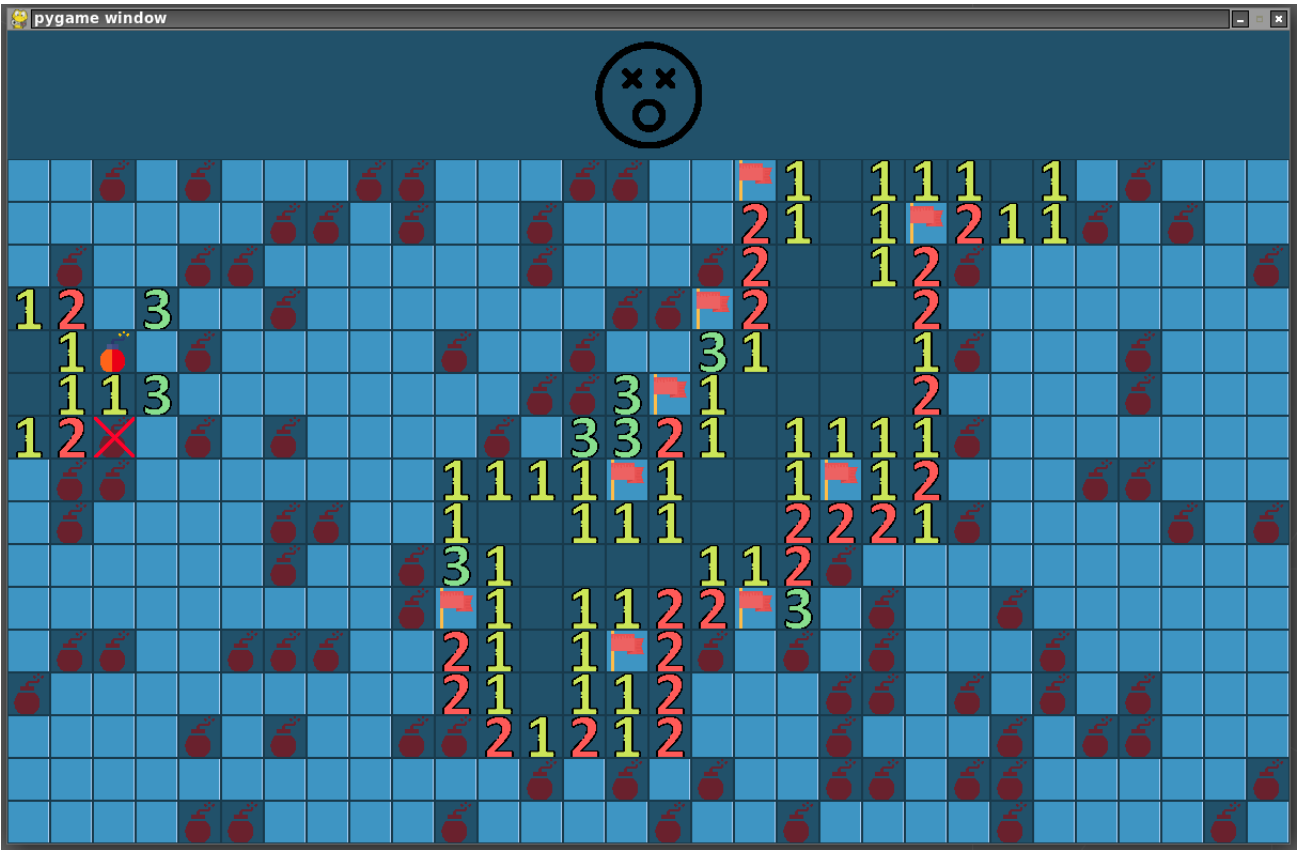## 4.2 Graphical User Interface (GUI)

4.2.1 Controls

- After pressing `Play` left click anywhere to start the game.

- Mouse controls

control	action
left click	open cell
right click	toggle flag
middle click	chord cell

- Keyboard controls

key	action
q	Quit to main menu

4.2.2 Screenshots

4.2.3 Video

Youtube: Minesweeper GUI Demo

5 Credits

5.1 Icons

5.1.1 Numbers

Number icons made by Freepik from www.flaticon.com

5.1.2 Bombs

Bomb Icons made by Freepik from www.flaticon.com

5.1.3 Flags

Flag Icons made by Vectors Market from www.flaticon.com

5.1.4 Squares

Square Icons made by Freepik from www.flaticon.com

5.1.5 Emoticons

Emoticon Icons made by Pixel perfect from www.flaticon.com

- `https://www.flaticon.com/free-icon/dead_589932`

- `https://www.flaticon.com/free-icon/confused_589927`

- `https://www.flaticon.com/free-icon/smile_590000`

- `https://www.flaticon.com/free-icon/smiling_590002`

5.2 Sounds

5.2.1 End Game

- Explosion sound made by Michel Baradari

- Win Sound made by Listener