

A close-up, slightly blurred image of a red pencil with a sharpened lead tip, resting on a piece of graph paper. The pencil is oriented diagonally from the bottom left towards the center. The graph paper has a grid of small squares, and some numbers are visible in the background, including '12', '13', '14', '15', '16', and '17'.

PROGRAMIRANJE 2

IGRA “BATTLESHIP”

Stanko Gavrić

Univerzitet Singidunum

Sadržaj

- Opis i cilj igre
- Zadatak
- Opis implementacije
- Prikaz važnih klasa
- Zaključak

Opis i cilj igre

U igri učestvuju dva igrača, jedan protiv drugog.

Igra se sastoji od raspoređivanja brodova na tabli i pogađanju protivničkih.

Cilj je pogoditi sve protivničke brodove.

Zadatak

Implementirati klase:

- Engine
- Grid
- Tile i
- Ship

Povezati gore navedene klase s main funkcijom tako da čine jednu cjelinu.

Opis implementacije

Igra je implementirana korištenjem C++ programskog jezika i SDL (Simple DirectMedia Layer) biblioteke.

Klasa Engine

```
18 class Engine
19 {
20 public:
21     Engine();
22     Engine(const string &gameTitle);
23     void init();
24     void loadMedia();
25     void drawText(string S, int x, int y, TTF_Font* font, SDL_Renderer* gRenderer);
26     bool run();
27     virtual ~Engine();
28 private:
29     string gameTitle;
30     SDL_Window* gWindow;
31     SDL_Renderer* gRenderer;
32     TTF_Font* font;
33 };
```

Klasa Grid

```
8  class Grid:public Engine
9  {
10 public:
11     Grid();
12     ~Grid();
13
14     bool loadFromFile(string path, SDL_Renderer* gRenderer);
15     void free();
16     void render(int x, int y, SDL_Renderer* gRenderer, SDL_Rect* clip = NULL);
17
18 private:
19     SDL_Texture* mTexture;
20     int mWidth;
21     int mHeight;
22 };
```

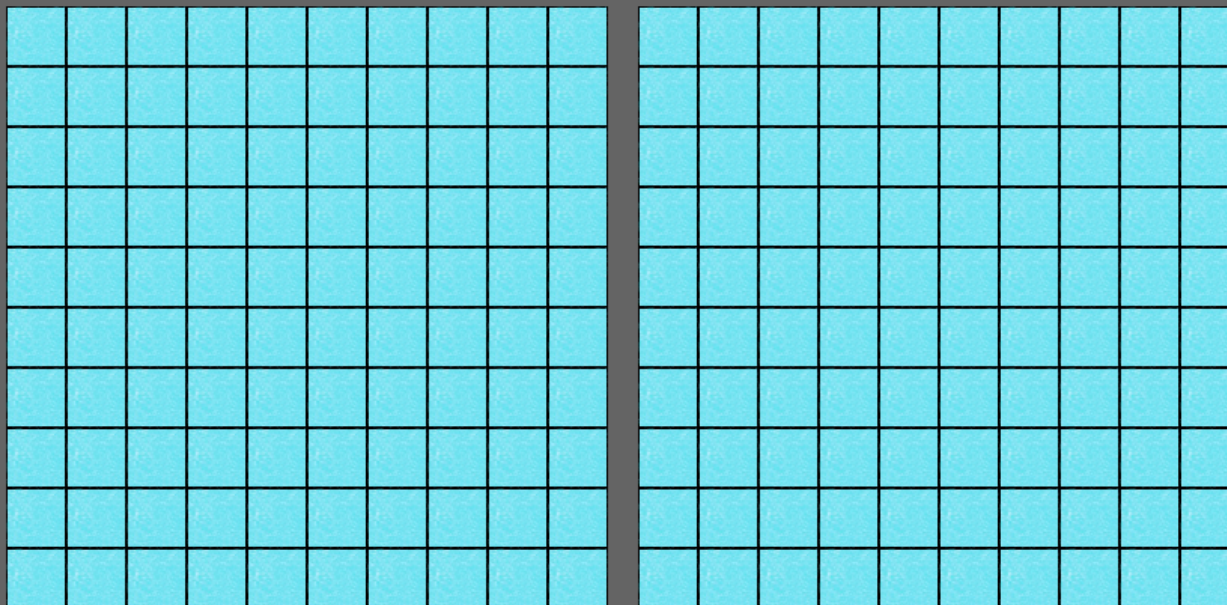
Klasa Tile

```
8  class Tile : public Grid
9  {
10 };
```

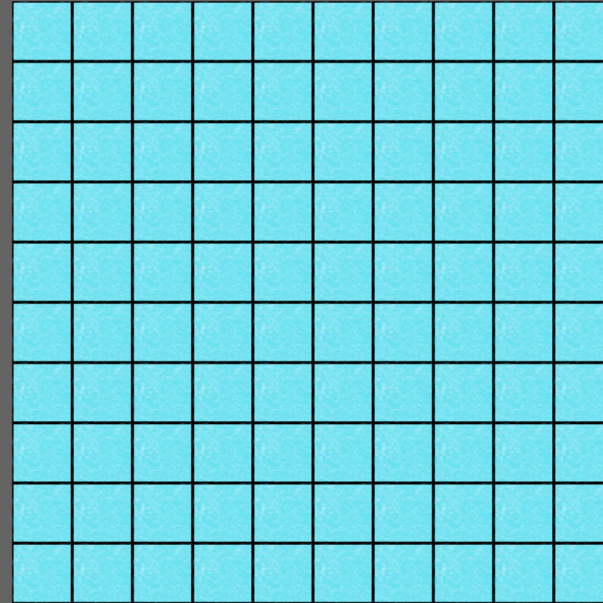
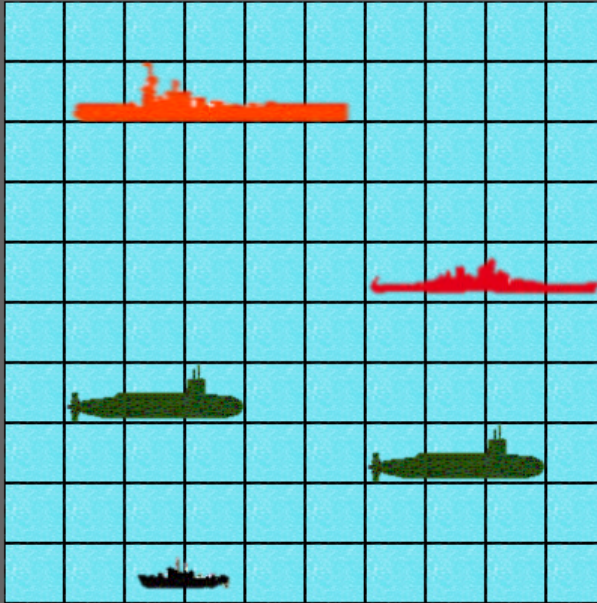

Klasa Ship

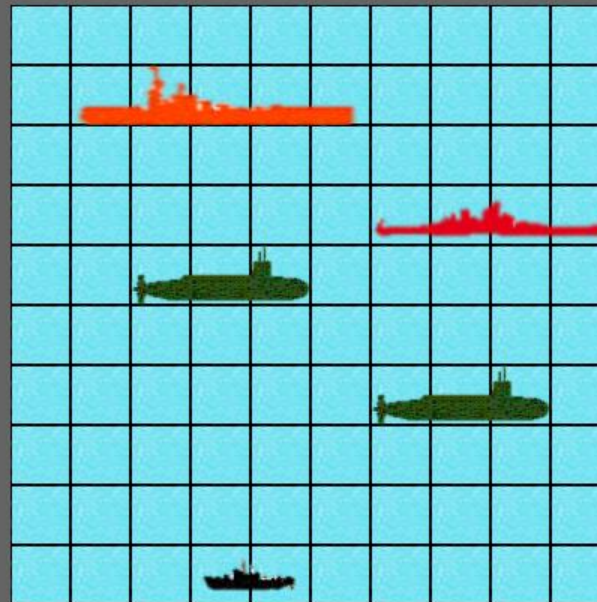
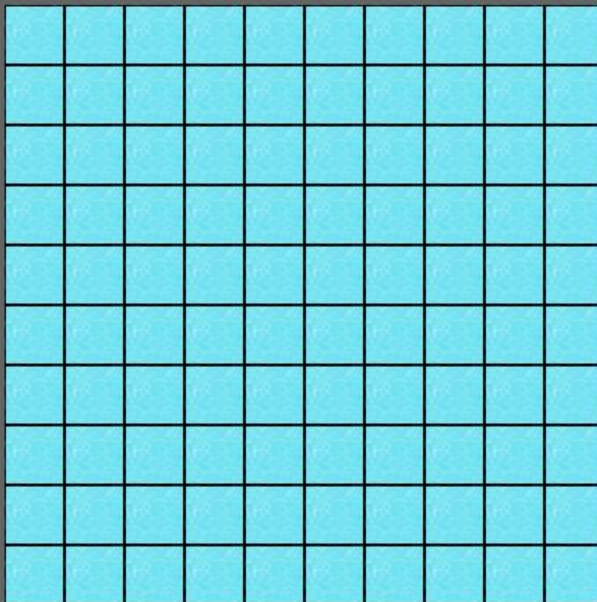
```
8  class Ship:public Engine
9  {
10 public:
11     Ship();
12     ~Ship();
13
14     bool loadFromFile(string path, SDL_Renderer* gRenderer);
15     void free();
16     void render(int x, int y, SDL_Renderer* gRenderer, SDL_Rect* clip = NULL);
17
18 private:
19     SDL_Texture* mTexture;
20     int mWidth;
21     int mHeight;
22 };
```

SHIP DEPLOYMENT

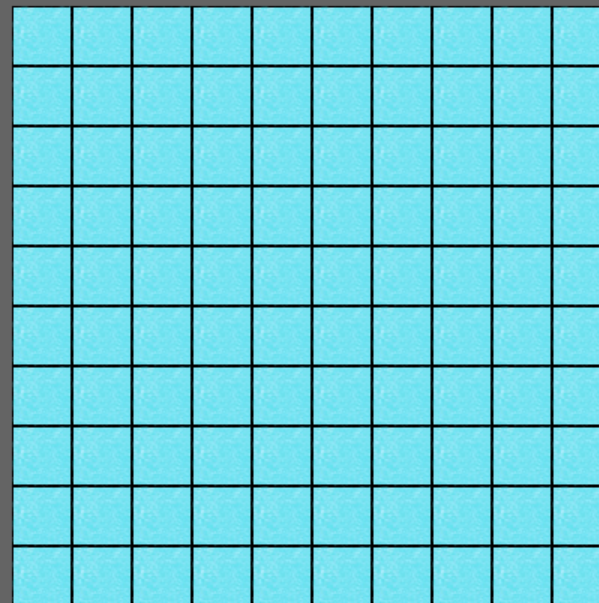
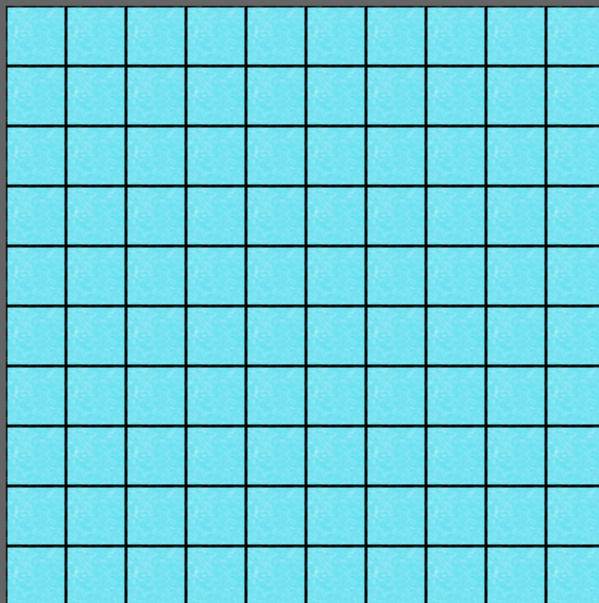


PLAYER 1 SHIP DEPLOYMENT



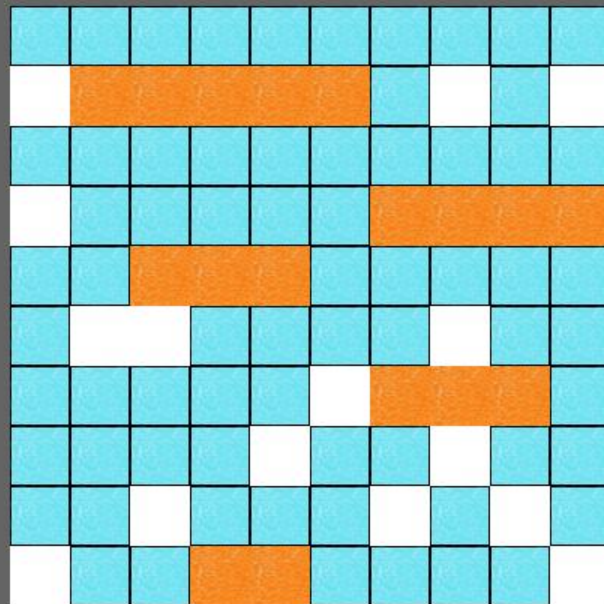
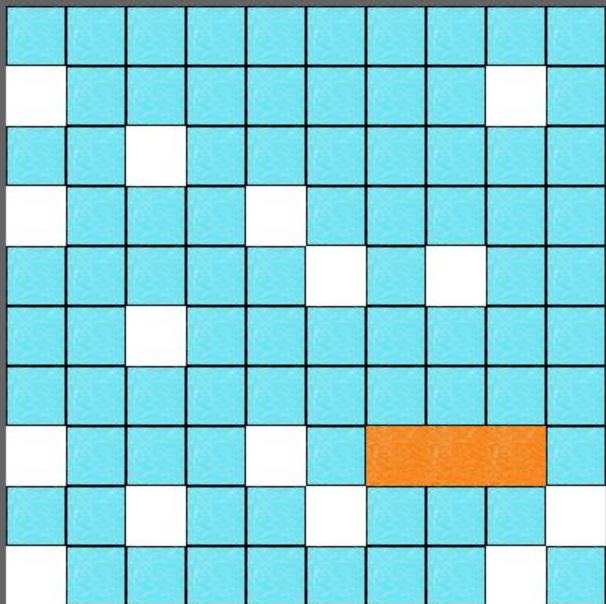


PLAYER 2
SHIP DEPLOYMENT



PLAYER 1

PLAY



PLAYER 1
WINNER

Zaključak

Programski jezik C++ je objektno-orijentisan i karakterišu ga velika brzina i efikasnost prilikom zauzimanja memorijskih resursa.