Technical University of Košice

Department of Computers and Informatics

Problem Set 6

SNAKE

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Assignment

Using the ncurses library, create a program (game, presentation or other artistic work), with the following minimal requirements:

1. Project contains 2D world.
2. Project meets at least 3 challenges:
   - Work with colors
   - Keyboard control (no Enter needed)
   - Multiply levels
   - Work in time (in the time the program is changed)
   - Work with command-line arguments
   - Work with files
3. Project must be more complicated than the sample programs, with an adequate level of difficulty

Game Logic

The code consists of 18 functions

4. `void MainMenu();` - initialize and prints menu
5. `void PrintAsciiArt();` - prints ascii art

6. `void WriteTopScore()` – writes top score to file

7. `void ReadTopScore()` – reads top score form file

8. `void DisplayTopScore()` – this 3 functions work with files and write and display score there

9. `void InitColors()` – initialize colors for program

10. `void Setup()` – set ups all program to standard settings

11. `void InitLevelThree() && void InitLevelTwo()` – creates three levels

12. `void Draw()` – draw snake body and fruits and levels

13. `void ResetGame()` – resets game for playing in three levels in the row

14. `void Input()` – gets input from the keyboard

15. `void Logic()` – all logic to switch levels and gain points

16. `void SelectMap()` – function to select map

17. `void SelectSpeed()` – function to select speed

18. `int main(int argc, char **argv)` – main function where uses input from command line and where all actions are performed, you can reset score by typing "-reset_score"

The world is made using a two-dimensional array and no snake moves along the coordinates of this array.

Elements of the map are:

- '*' – food (element which snake should collect);
- ' ' – empty position
- 'o0' – snakes body;

Game play

The game was written in program.c file. It is remake one time popular game. The snake has a field on which it moves and collects food. Game has three levels of difficulty, they differ in the speed of the snake and in different maps. But game play remains the same.

When you start the program, the game intro screen appears.

In the main menu you have four choices:

- there is choose the level;
- there is option to select speed;
- button to start the game;
- quit the game.

If you chose the wrong window then you can go back when you press the keys:

- press button go back to menu

All actions are confirmed when you press "start game"

Play:

When you choose to start the game if you have not chosen the map it will start from the beginning and you will have to complete 3 maps to win (first map is 50 points, second is 100 and third is 150), in the future will be on map game play where you have to score 1000 point to win.
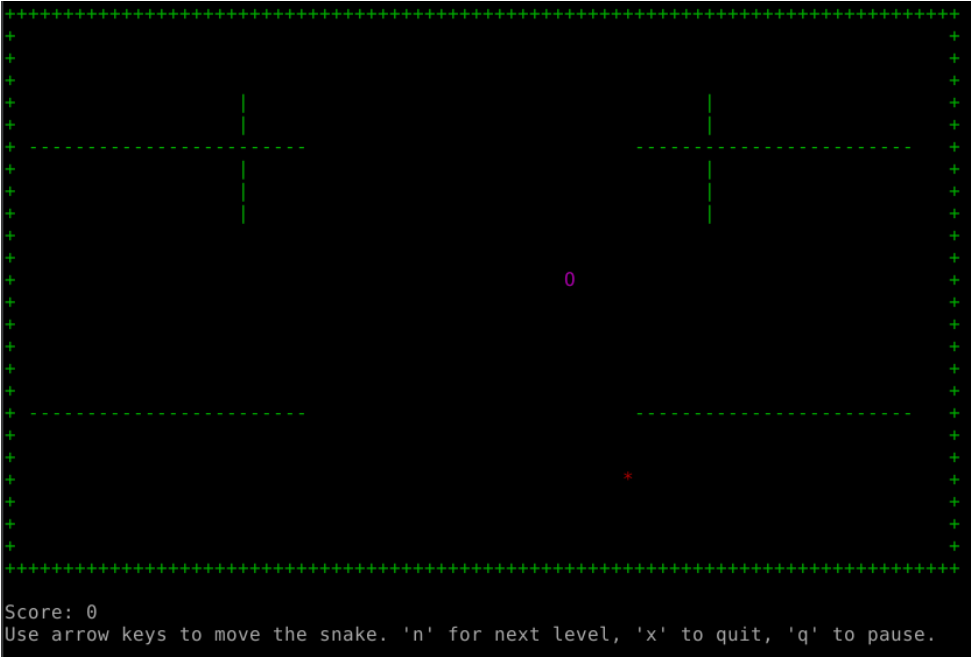
Every fruit gives you 5 points

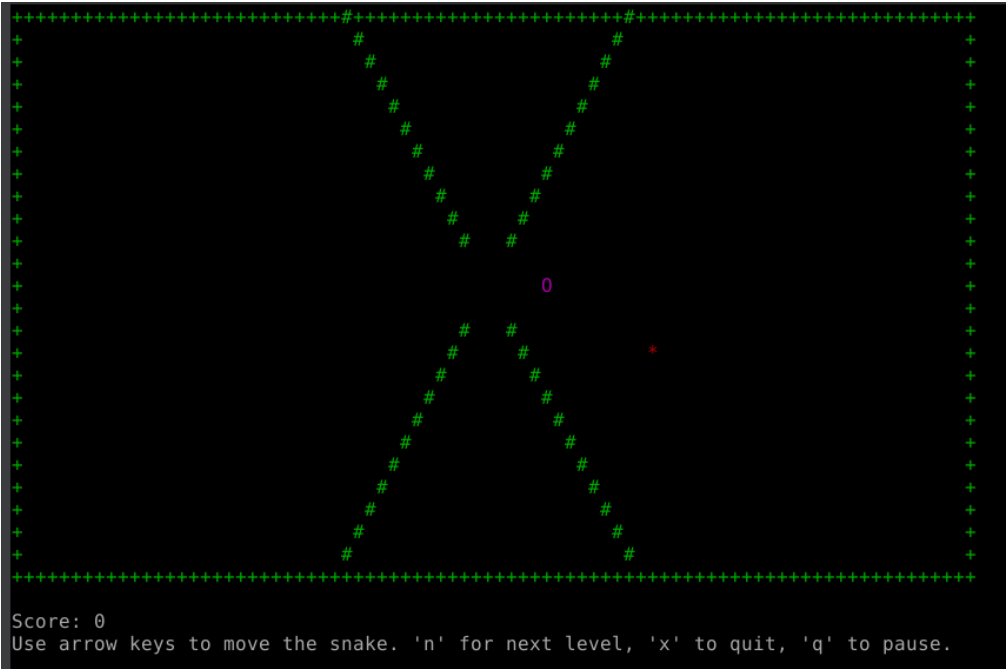When you are in a game, game can be paused it by pressing 'q'.

Level 1

```
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++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Score: 0
Use arrow keys to move the snake. 'n' for next level, 'x' to quit, 'q' to pause.
```

Level 2

Score: 0
Use arrow keys to move the snake. 'n' for next level, 'x' to quit, 'q' to pause.

Level 3

Score: 0
Use arrow keys to move the snake. 'n' for next level, 'x' to quit, 'q' to pause.

When the snake hits itself or hits the edge of the map you lose.


```
Final Score: 0
john@developer:snake game$
```

When player loses game is ending and prints to command line final score, if your final score is bigger then that in file, this file will be rewritten with your final score

Conclusion

This game can be modernized for sure by adding new levels, more speeds, also can be improved functionality and speed of execution of the functions. It looks not so bad, but I am looking forward to improve this game.