

**Mansoura University**

**Faculty of Computers and Information**

**Department of Computer Science**

**Project Proposal**

##### Title

### **Snake Game**

### **Submitted by:**

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| Student Name | Student Email | Section |
| محمد عبد الرحمن صبري | kairokeymomo@std.mans.edu.eg | 12 |
| محمد احمد صلاح إبراهيم شلبي | Mohamedahmedsalah@std.mans.edu.eg | 11 |
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Project Statement:

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| Snake Game |
| Snake is a popular computer game in which players control a snake within a grid on the screen and try to maximize their score. The score increases whenever the snake eats some fruit, which appear on the screen one at a time in a random position. Every time the snake eats some fruit, it grows in its size. |

Project Objectives:

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| The goal of this project was to create an autonomous snake agent that is quite good at the game, and it was successful insofar as it is usually much better than myself!  The player loses when one of two conditions occurs:   1. The snake crashes into a wall. 2. The head of the snake crashed into its own body. |

Tools**:**

In the game of Snake, the player uses the arrow keys to move a "snake" around the board. As the snake finds food, it eats the food, and thereby grows larger. The game ends when the snake either moves off the screen or moves into itself. The goal is to make the snake as large as possible before that happens

Used program tool: python – A\* algorithms – design by pygame tool in python

References:

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| 1. [**https://www.kosbie.net/cmu/fall-10/15-110/handouts/snake/snake.html#:~:text=In%20the%20game%20of%20Snake,as%20possible%20before%20that%20happens**](https://www.kosbie.net/cmu/fall-10/15-110/handouts/snake/snake.html#:~:text=In%20the%20game%20of%20Snake,as%20possible%20before%20that%20happens)**.** 2. [**https://www.louisbourque.ca/AI-Snake-Game/**](https://www.louisbourque.ca/AI-Snake-Game/) 3. [**https://www.researchgate.net/publication/309390260\_Snake\_game\_AI\_Movement\_rating\_functions\_and\_evolutionary\_algorithm-based\_optimization**](https://www.researchgate.net/publication/309390260_Snake_game_AI_Movement_rating_functions_and_evolutionary_algorithm-based_optimization) |