Cross Word Puzzle

Team : 02

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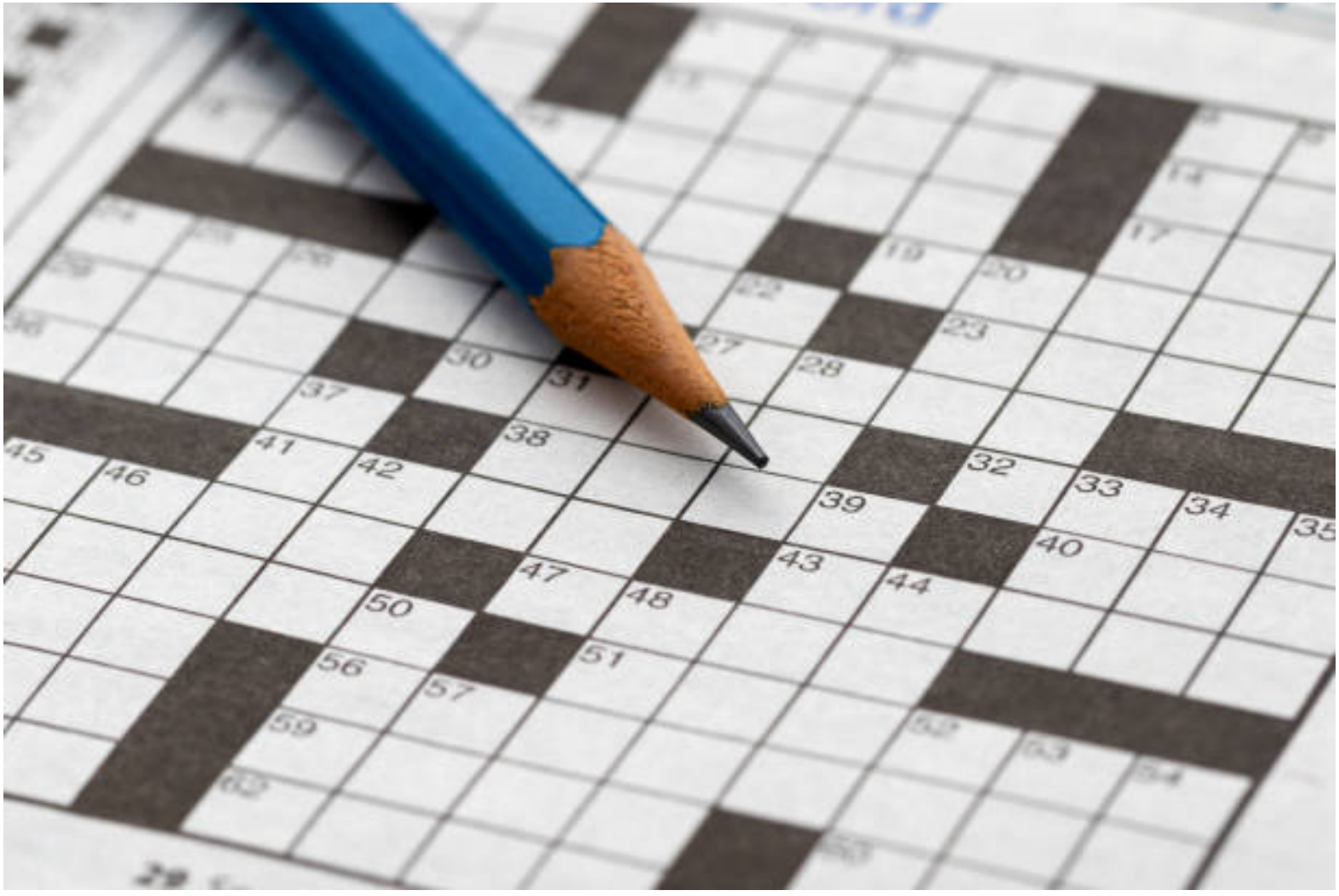
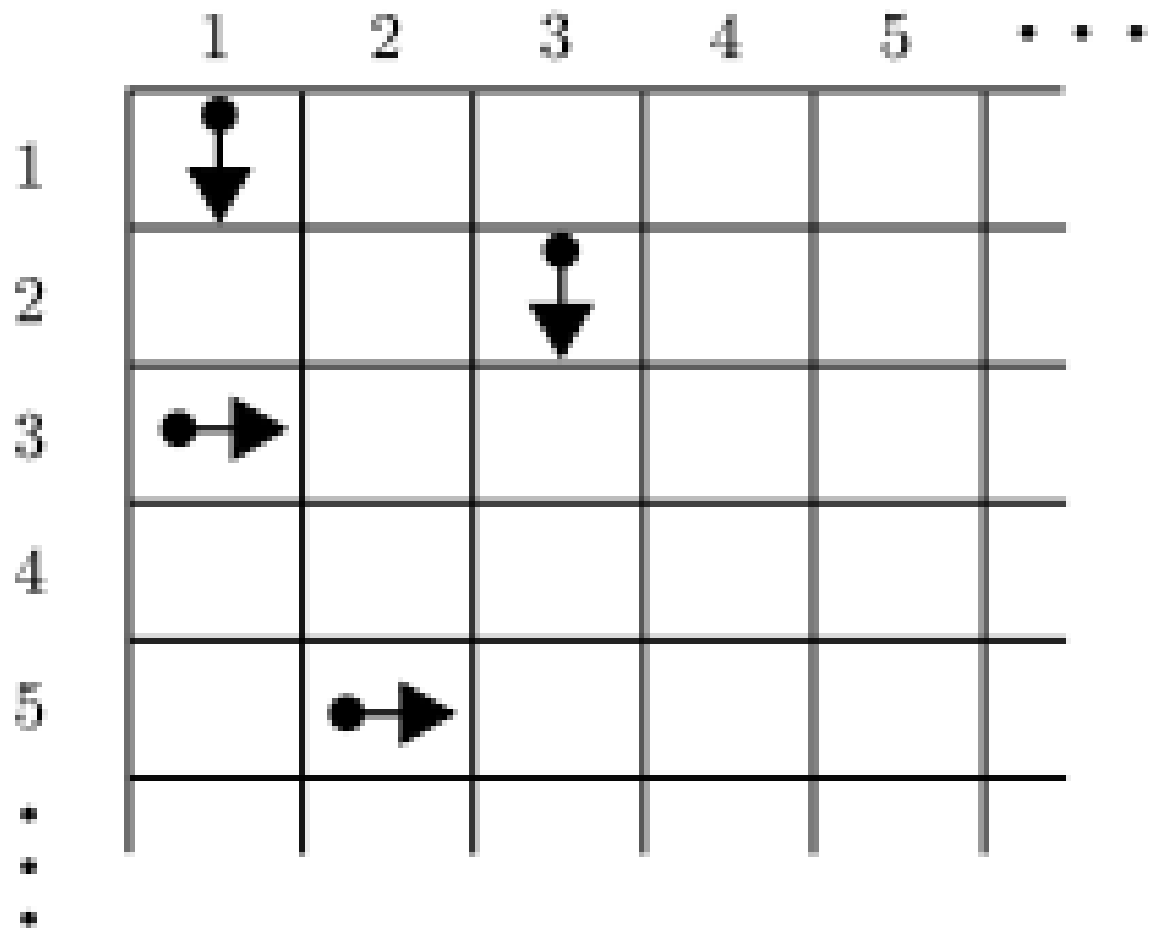
Introduction

- Crossword puzzle, popular form of word puzzle.
- It was first published in England on December 21,1913 by Arthur Wynne.



- A crossword is a word puzzle that usually form of a square or a rectangular grid of white- and black-shaded squares.

- The answer words and phrases are placed in the grid from left to right ("Across") and from top to bottom ("Down").



Candidate Words

SLOW
AGAIN
BOY
TAIL
BEAR

Figure 1: Corner of Example Puzzle

Problem statement

- The puzzle has a certain number of "slots" where a word can placed .Each slot is represented by the row and column number of the square where the slot begins , and the direction in which the slot extends from its initial square.

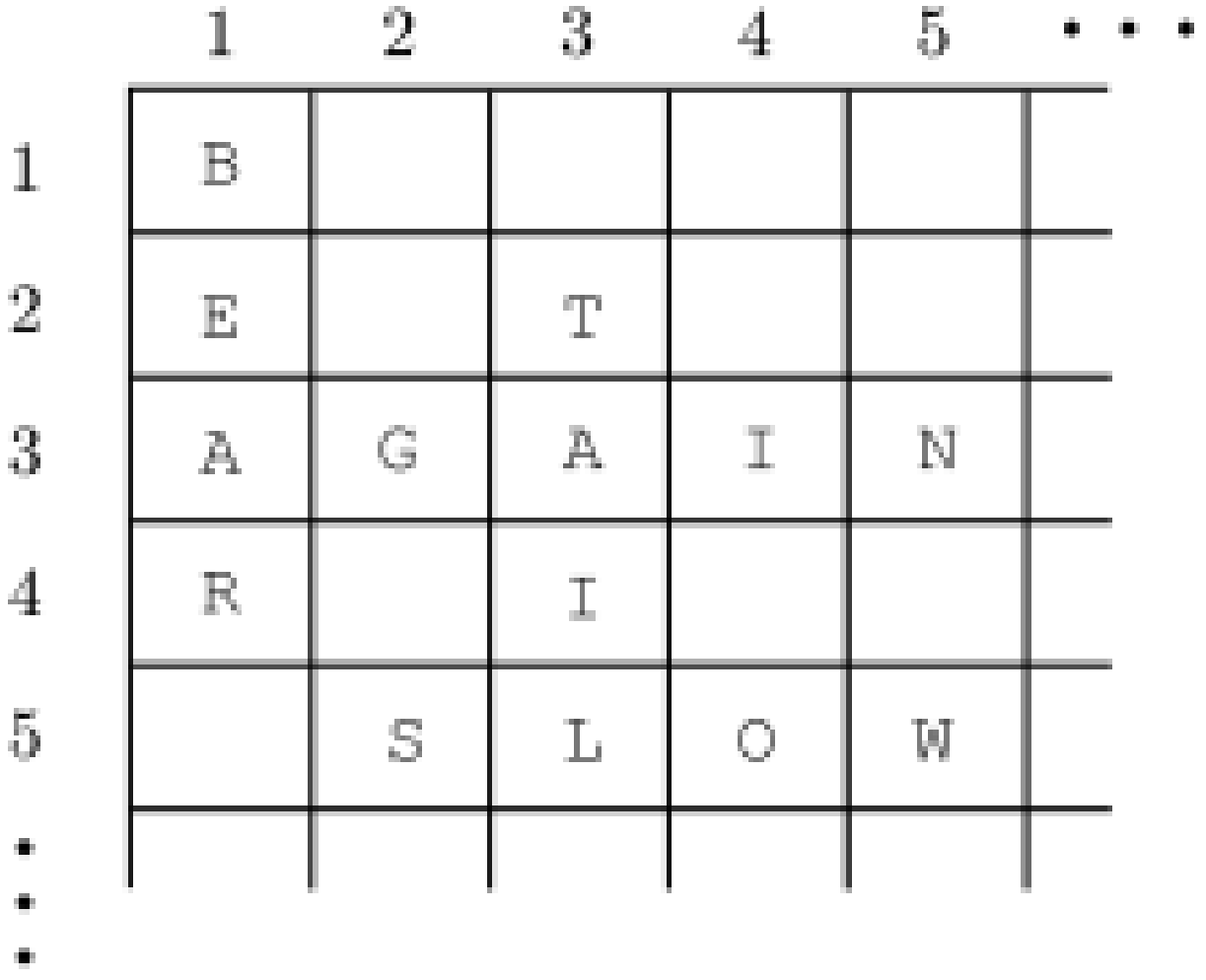


Figure 2: Example Solution

Approach

- The game's goal is to fill the white squares with letters, forming words or phrases, by solving clues, which lead to the answers.

Procedure

- Sort all the words by length, descending.
- Take the first word and place it on the board.
- Take the next word.

- Search through all the words that are already on the board and see if there are any possible intersections with this word.

- If there is a possible location for this word, loop through all the words that are on the board and check to see if the new word interferes..

- If this word doesn't break the board, then place it there and go to step 3, otherwise, continue searching for a place .

- Continue this loop until all the words are either placed or unable to be placed.

Learnings

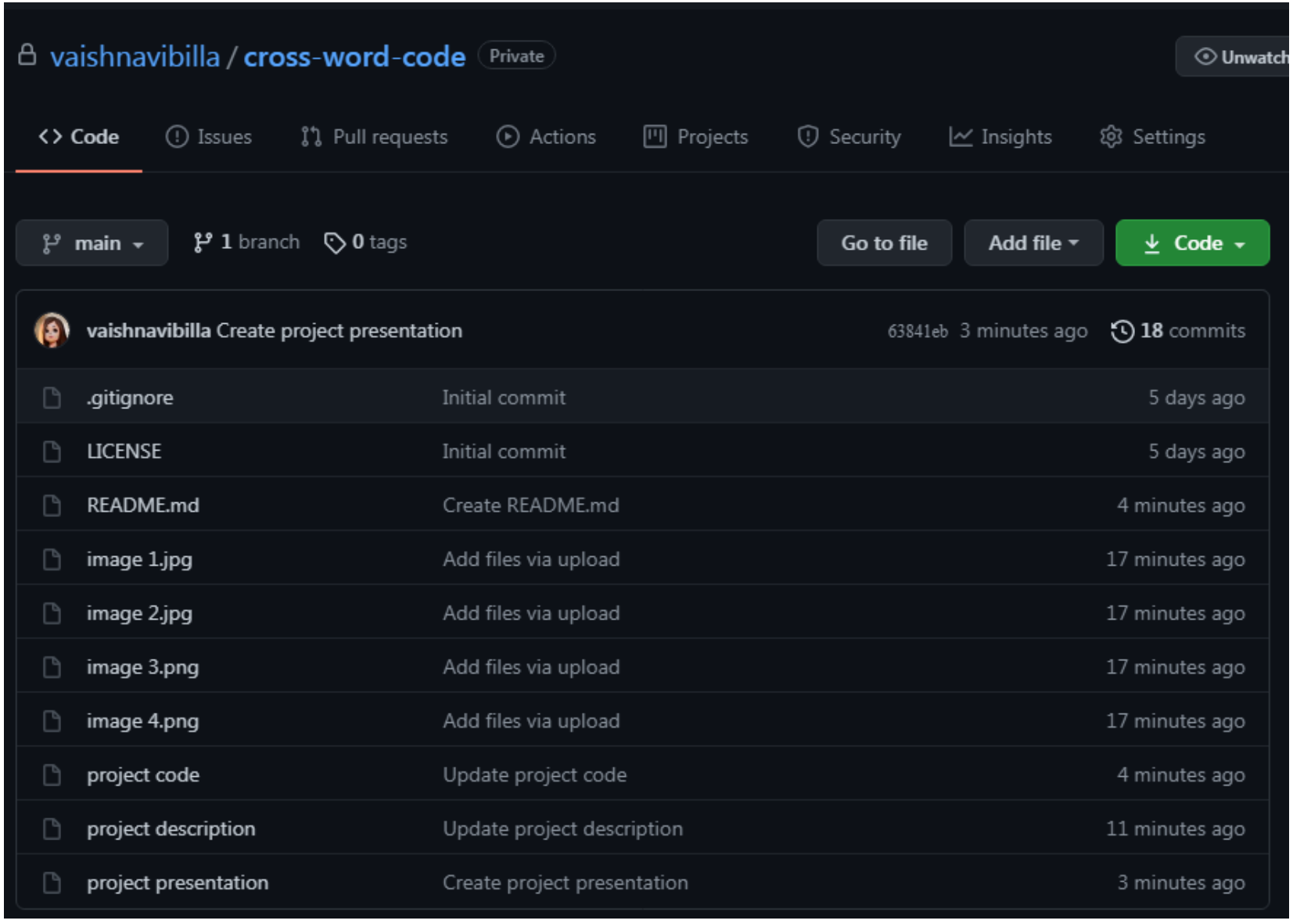
- Team Work.
- Time management.
- Dividing and knowing their own abilities.
- Writing the piece of code.

Challenges

- Challenge 1 : Finding the Algorithm
- Challenge 2 : Importing the libraries.
- Challenge 3 : Sorting the words.
- Challenge 4 : Intersection of words in random.

- Challenge 5 : Generating the grid with empty spaces.
- Challenge 6 : Inserting of words in the grid in random.
- Challenge 7 : Cropping the grid with respective input.
- Challenge 8 : Subtracting of list to get impossible words.

Git Repository



Packages

- Numpy
- Math
- Random
- Itertools

Platforms used

- Operating System : Linux
- Programming Languages : Pycharm , Python(3.2), Latex
- Hosting Platform : Git lab and Git hub.

Statistics

- Number of lines : 188
- Number of functions : 21
- Number of libraries : 5

References

- https://github.com/vaishnavibilla/cross-word-code.
- https://en.wikipedia.org/wiki/Crossword
- https://www.youtube.com/watch?v=bSZMj

THANK YOU