Diamonds Project

April 2024

1 Introduction

To prompt GenAI to write code for the diamonds bidding game, develop a strategy for the game and finally build a UI using pygame.

2 Teaching GenAI the game

- When GenAI was prompted with the set of rules, it claimed to have understood the game. When it was asked to write code, it misunderstood several aspects and implemented them wrongly. (did not provide one suite of cards to each player, did not implement the scoring strategy in case of a tie)
- The code that was given by GenAI was not optimized and did not give the expected result. It took several attempts to get a better version of the code. The prompts had to be very specific in order to improve the code, otherwise it just gave the same code in a roundabout manner.
- It made some basic mistakes like considering the number 10 twice and every detail had to be checked carefully to make sure there weren't any more mistakes.

3 Developing a strategy

- The initial strategy that GenAI came up with was actually very detailed, considering lots of factors. But there were some obvious mistakes (bidding very high cards for low-valued cards in the very beginning)
- Since the GenAI didn't understand the game properly, its strategy was flawed. And once again, it made some mistakes like considering the player with low score as the winner. The strategy was to be checked properly so that no such mistakes were made.

4 Developing a UI

- Provided a very basic UI with the initial prompt.
- Did not implement every part of the game code it generated previously.
- The game loop was erroneous.

5 Analysis and Conclusion

Although GenAI didn't give the best possible code, it certainly was a very good help while solving problems like this.

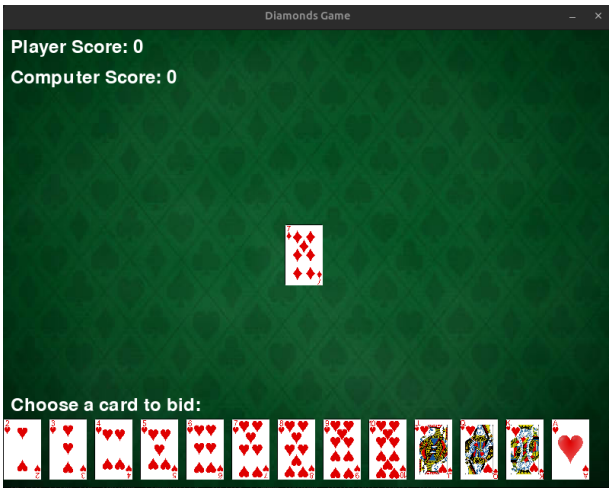
In short, automated code generation tools like GenAI can definitely help us save time, but they truly excel when we add our own personal touch. Our insights and expertise ensure that the code doesn't just work for now, but remains adaptable and easy to handle in the long run.

6 Problems in code generated

- The initial code generated by GenAI was not very "clean". When a new response is generated, it undoes some other earlier requested change.
- Does not implement some of the specifications unless they are reiterated.

7 Learnings

- No matter the number of prompts given, GenAI needs human intervention to write clean code.
- Despite all the mistakes, GenAI provided a good base to start off with. Coding with GenAI greatly helped in increasing productivity.


Diamonds Game
Player Score: 0
Computer Score: 0
Choose a card to bid: