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"""
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spadoni.gabriel-TASK39-DLV01-INC01-SPOP-PROG-v0.2
This product is the second version of the python program of the SPOP (Small Proprietary Original Project).
The SPOP is a simple one player game with fantasy elements. In this game, the user plays with a random
generated deck of 20 offensive and defensive cards. The player starts at the first floor of a dungeon and
will try to climb it. Each floor is constituted of one fight against an enemy. The enemy will attack and
defend itself against the player using cards. If the player is able to win each single fight, he wins a game.
The program contains the different classes (Card, Deck, CardUser, Player, Enemy) as well as the main function
that is responsible of the CLI used to interact with the software.
"""

import random as rd

# Class for cards, a card as a name, a type(offensive or defensive), health_effect, status_effect and the text which the decription of the card.
class ctCard:

    def __init__(self, name, type, health_effect, status_effect, text):
        self.name = name
        self.type = type
        self.health_effect = health_effect
        self.status_effect = status_effect
        self.text = text


    def oeDescribeCard(self):
        print(f' --- The card {self.name} is a {self.type}. --- \n --- {self.text} ---')

# Class for a deck, a deck is composed of offensive_cards, defensive_cards and has a max card.
# It also contains the deck which is a list and isShuffled.
# There are the functions createDeck, shuffleDeck and printDeck
class ctDeck:

    def __init__(self, offensive_cards, defensive_cards, max_cards=20):
        self.offensive_cards = offensive_cards
        self.defensive_cards = defensive_cards
        self.deck = []
        self.total_deck = []
        self.max_cards = max_cards
        self.isShuffled = False

    def oeCreateDeck(self):

        self.isShuffled = False

        n_offensive_cards = rd.randint(8, 12)
        n_defensive_cards = self.max_cards - n_offensive_cards

        for _ in range(n_offensive_cards):
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            card = self.offensive_cards[rd.randint(0, len(self.offensive_cards) - 1)]
            self.deck.append(card)
        for _ in range(n_defensive_cards):
            card = self.defensive_cards[rd.randint(0, len(self.defensive_cards) - 1)]
            self.deck.append(card)

        self.total_deck = self.deck

    def oeShuffleDeck(self):
        self.isShuffled = True
        rd.shuffle(self.deck)


    def oePrintDeck(self):
        n = 1
        for card in self.deck:
            print(n, card.name)
            n += 1

    def oeShowDeck(self):
        for card in self.deck:
            print(card.name)


# Class CardUser is the class for player and enemies. A card user has a hand, a deck, health_points and a status.
# There are the functions showStatus which shows the health and the status and useCard that has
class ctCardUser:

    def __init__(self, health_points):
        self.hand = []
        self.deck = []
        self.health_points = health_points
        self.status_effect = None
        self.isDead = False

    def oeShowStatus(self):
        pass

    def ugUseCard(self, card, target):

        if card not in self.hand:
            return "--- Not in hand ---"

        if self.status_effect == 'freeze':
            return "-- You are frozen ---"

        if target is None:
            return "--- No target Selected ---"

        self.oeApplyCardEffect(card, target)
        self.oeRemoveCardFromHand(card)

        return f"--- Card Effect applied --- \n --- {card.text} ---"

    def oeApplyCardEffect(self, card, target):
        health_effect = card.health_effect
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107         status_effect = card.status_effect
108 
109         target.health_points += health_effect
110         target.status_effect = status_effect
111 
112     def oeRemoveCardFromHand(self, card):
113         self.hand.remove(card)
114 
115     def oeDrawCard(self, number):
116 
117         for _ in range(number):
118             self.hand.append(self.deck.deck[0])
119             self.deck.deck = self.deck.deck[1:]
120 
121     def oeShowHand(self):
122 
123         for card in self.hand:
124             print(f"--- {card.name} ---")
125 
126     def oeShowDeck(self):
127 
128         self.deck.showDeck()
129 
130 # Class Player inherits from CardUser, however here with have a set health_points
    value
131 class ctPlayer(ctCardUser):
132 
133     def __init__(self, tries):
134         super().__init__(health_points= 20)
135         self.isFightingEnemy = False
136         self.tries = tries
137 
138     def oeGiveDeck(self, deck):
139         self.deck = deck
140 
141 
142 
143 
144 # Class Enemy inherist from CardUser
145 class ctEnemy(ctCardUser):
146 
147     def __init__(self, health_points):
148         super().__init__(health_points)
149         self.isFightingPlayer = False
150 
151 
152 
153 class ctAdmin:
154     pass
155 
156 
157 # Class Game will take care of the interactions of the user.
158 class Game:
159 
160     def __init__(self):
161 
162         self.player = None
163         self.enemies = []
164         self.current_floor = 0
165         self.turn_counter = 0
```

```
166
167         self.quit = False
168         self.isDeckCreated = False
169         self.isDeckShuffle = False
170         self.isGameStarted = False
171         self.isFightStarted = False
172         self.isPlayerCreated = False
173         self.isTypeUser = False
174         #self.commands = dict()
175
176         self.offensive_cards_dic = {
177             0: ctCard("FireBall", "offensive", -5, "burn", "Inflict 5 damages to the
targeted entity"),
178             1: ctCard("Ice Spike", "offensive", -3, "freeze", "Inflict 3 damage to
targeted entity"),
179             2: ctCard("Burn", "offensive", 0, "burn", "Inflict burning effect to the
target")
180         }
181
182         self.defensive_cards_dic = {
183             0: ctCard("Heal", "defensive", +5, None, "Heal 5 health points to
target"),
184             1: ctCard("Block", "defensive", 6, "prevent", "Prevent next turn
damage"),
185             2: ctCard("Blessing", "defensive", 0, "bless", "Next healing will be
doubled")
186         }
187
188
189     # Add a command manager with commands dic. To have a single function that
manages
190     # Main process of the CLI.
191     def main(self):
192
193
194         print("--- Welcome in the SPOP of Gabriel S.J. Spadoni ---")
195         print("--- Type help to display the available commands and their description
---")
196         print("--- Enter your user type ---")
197
198         while not self.isTypeUser:
199             command = input("--- Type your command --- ")
200
201             if command == 'player':
202                 player = ctPlayer(tries= 3)
203                 self.isPlayerCreated = True
204                 self.isTypeUser = True
205             elif command == 'admin':
206                 print("---  admin not supported --- ")
207             else:
208                 print('--- Enter your user type: player or admin ---')
209
210         while not self.quit:
211
212             command = input("--- Type your command --- ")
213
214             self.commandHandler(command, player)
215
216     #Handles the different command that the user can enter in the terminal
217     def commandHandler(self, command, player):
```

```
218         command = command.split(' ')
219 
220         if command[0] == 'quit':
221             self.quit = True
222         elif command[0] == 'help':
223             print("--- Commands are: ---")
224             print("--- createDeck: creates a deck of random cards taken from the
    card pool ---")
225             print("--- showDeck: shows the cards in the deck --- ")
226             print("--- shuffleDeck: shuffles the deck --- ")
227             print("--- startGame: starts the game ---")
228             print("--- startFight: starts a fight agains the enemy of the floor ---
    ")
229             print("--- showHand: shows the cards in hand ---")
230             print("--- describeCard cardname: describes the effect of the card ---")
231             print("--- useCard cardname target: applies the card effect to the
    targeted card user ---")
232             print("--- quit: quit the software --- ")
233         elif command[0] == 'createDeck':
234             deck = ctDeck(self.offensive_cards_dic, self.defensive_cards_dic)
235             deck.oeCreateDeck()
236             player.oeGiveDeck(deck)
237             print("--- Deck Created! --- ")
238             self.isDeckCreated = True
239         elif command[0] == 'showDeck':
240             if self.isDeckCreated:
241                 print("--- Deck contains --- ")
242                 player.deck.oePrintDeck()
243             else:
244                 print('--- Deck not created! --- ')
245         elif command[0] == 'shuffleDeck':
246             if self.isDeckCreated:
247                 player.deck.oeShuffleDeck()
248                 self.isDeckShuffled = True
249                 print('--- Deck succesfuly shuffled! --- ')
250             else:
251                 print('--- Deck not created! --- ')
252         elif command[0] == 'startGame':
253             if self.isDeckCreated and self.isDeckShuffled and self.isPlayerCreated
    and not self.isGameStarted:
254                 self.createEnemies()
255 
256                 print('--- The game has started! --- ')
257                 self.isGameStarted = True
258             else:
259                 print("--- Game can't be started ---")
260         elif command[0] == 'describeCard':
261             try:
262                 card_name = command[1]
263 
264                 for card in player.deck.total_deck:
265                     if card.name == card_name:
266                         card_used = card
267                     else:
268                         card_used = None
269 
270 
271                 if card_used is not None:
272 
273                     card.oeDescribeCard()
```

```
                else:
                    print("--- Card not in deck ---")


            except:
                print("--- no card given ---")
        elif command[0] == 'startFight':
            if self.isDeckCreated and self.isDeckShuffled and self.isPlayerCreated and self.isGameStarted and not self.isFightStarted:

                self.isFightStarted = True
                print("--- Fight Started ! ---")
                self.startFight(player, self.enemies[self.current_floor])


        elif command[0] == 'useCard':
            if self.isDeckCreated and self.isDeckShuffled and self.isPlayerCreated and self.isGameStarted and self.isFightStarted:
                card_name = command[1]
                target_name = command[2]

                for card in player.deck.total_deck:
                    if card.name == card_name:
                        card_used = card
                    else:
                        card_used = None

                if target_name == 'enemy':
                    target = self.current_enemy
                elif target_name == 'player':
                    target = player
                else:
                    target = None

                message = player.ugUseCard(card_used, target)
                print(message)
        elif command[0] == 'showHand':
            if self.isDeckCreated and self.isDeckShuffled and self.isPlayerCreated and self.isGameStarted and self.isFightStarted:
                print("--- The cards in your hand are: ---")
                player.oeShowHand()
        else:
            print("--- Unknown Command. Try again! --- ")


    def createEnemies(self):

        enemy0 = ctEnemy(10)
        self.enemies.append(enemy0)

    #Handles a fight against an enemy
    def startFight(self, player, enemy):
        player.isFightingEnemy = True
        enemy.isFightingPlayer = True

        player.oeDrawCard(5)
        self.current_enemy = enemy

        while player.isFightingEnemy and enemy.isFightingPlayer and not self.quit:

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```
            command = input("--- Type your command --- ")
            self.commandHandler(command, player)

            if player.health_points <= 0 or enemy.health_points <= 0:
                player.isFightingEnemy = False
                enemy.isFightingPlayer = False



game = Game()

game.main()
```