

```

1  """Small pokemon collection game using MySQL"""
2
3
4  import textwrap
5  import random
6
7  import mysql.connector as mycon
8
9
10 # Establish database connection
11 mcon = mycon.connect(
12     host="localhost",
13     user=input("Enter MySQL Username: "),
14     passwd=input("Enter MySQL Password: "),
15 )
16 cursor = mcon.cursor()
17
18 # Database name
19 DATABASE = "pokemon_game"
20
21 # Table names
22 POKEMON_TABLE = "pokemon"
23
24 COLUMNS = ["ID", "Name", "Level", "Rarity"]
25
26 # Initialize the database and tables
27 cursor.execute(f"""CREATE DATABASE IF NOT EXISTS {DATABASE}""")
28 cursor.execute(f"USE {DATABASE}")
29
30 cursor.execute(
31     f"""CREATE TABLE IF NOT EXISTS {POKEMON_TABLE}(
32         id INTEGER PRIMARY KEY AUTO_INCREMENT,
33         name VARCHAR(255) NOT NULL,
34         level INTEGER,
35         rarity VARCHAR(255)
36     )"""
37 )
38
39 mcon.commit()
40
41
42 def execute(query, params=None):
43     """Function to execute SQL queries on the database and automatically commit.
44
45     Returns cursor.rowcount"""
46
47     cursor.execute(query, params)
48     if cursor.rowcount:
49         mcon.commit()
50     return cursor.rowcount
51
52
53 def printrow(row):
54     print("|".join(map(lambda s: f"{s:^10}", row)))
55
56
57 AVAILABLE_POKEMON = {
58     "pikachu": "common",
59     "squirtle": "common",
60     "ralts": "common",
61     "charmander": "common",
62     "bulbasaur": "common",
63     "charizard": "rare",
64     "eternatus": "rare",
65     "rayquaza": "rare",
66     "arceus": "rare",
67 }
68
69
70 def get_pokemon(_id=None):
71     """Get data of a pokèmon from the database"""
72
73     if _id is not None:
74         execute(f"""SELECT * FROM {POKEMON_TABLE} WHERE id = %s""", (_id,))
75         return cursor.fetchone()
76     else:
77         execute(f"""SELECT * FROM {POKEMON_TABLE}""")
78         return cursor.fetchall()
79
80
81 def insert_pokemon(name, level):
82     """Insert a pokemon into the database"""
83
84     rarity = AVAILABLE_POKEMON[name]
85
86     execute(

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87         f"""INSERT INTO {POKEMON_TABLE} (name, level, rarity)
88         VALUES(%s, %s, %s)""" ,
89         (name, level, rarity),
90     )
91
92     _id = cursor.lastrowid
93     print()
94     print(f"Successfully added a new Level {level} {name.title()} ({#{_id}}!)")
95
96     return _id
97
98
99 def delete_pokemon(_id):
100     """Delete a pokemon from the database"""
101
102     execute(f"DELETE FROM {POKEMON_TABLE} WHERE id = %s" , (_id,))
103     deleted = cursor.rowcount
104
105     print()
106     if deleted:
107         print(f"Successfully deleted Pokèmon #{_id}")
108     else:
109         print("Could not find that Pokèmon!")
110
111     return deleted
112
113
114 def take_input(text, *, check=lambda x: True, error_msg=""):
115     """Keeps asking input until correct value is passed."""
116
117     while True:
118         value = input(text)
119         if not check(value):
120             print(error_msg)
121             continue
122         return value
123
124
125 while True:
126     print(
127         textwrap.dedent(
128             f"""
129 +=====+
130 |           Pokèmon Mini Game           |
131 +-----+
132 1. Add Pokèmon
133 2. Add Random Pokèmon
134 3. Remove Pokèmon
135
136 4. Display Pokèmon
137
138 5. Exit
139 =====
140         )
141     )
142     option = input("Enter option: ")
143     try:
144         option = int(option)
145     except ValueError:
146         print("Invalid input!")
147         continue
148
149     if option == 1:
150         # Add pokemon
151         name = take_input(
152             "Input pokèmon name: ",
153             check=lambda n: n.lower() in AVAILABLE_POKEMON,
154             error_msg="Invalid pokèmon!",
155         ).lower()
156         level = take_input(
157             "Input level of the pokèmon: ",
158             check=lambda l: l.isdigit() and 0 <= int(l) <= 100,
159             error_msg="Level must be an integer between 0 and 100",
160         )
161         insert_pokemon(name, level)
162
163     elif option == 2:
164         # Add random pokemon
165         name = random.choice(list(AVAILABLE_POKEMON))
166         level = random.randint(0, 100)
167         insert_pokemon(name, level)
168
169     elif option == 3:
170         _id = take_input("Enter ID of the Pokèmon you want to remove: ")
171         delete_pokemon(_id)
172
173     elif option == 4:

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```
174     pokemon = get_pokemon()
175     printrow(COLUMNS)
176     print("-" * 45)
177     for p in pokemon:
178         printrow(p)
179
180 elif option == 5:
181     break
182
183 else:
184     print("Invalid input!")
185     continue
```