Cherry Lee H. Jimenez 03/06/24

BSCS-2B Laboratory 3

A. Below is a combination lock with digits from 0 to 9. Create a program that will do the following:

1. Input a four - digit PINCODE and save it as “PIN”.
2. Create a list of distinct possible four – digit combinations and place it in a list name “CODES’.
3. Create a loop that will match each element in the “CODES” to the saved ‘PIN’.
4. If the match is successful, it will print ‘OPEN’.

Discrete-Lab3.py > ...

```python
import itertools

def main():
    # Input PINCODE
    PIN = input("Enter your four-digit PINCODE: ")

    # Generate all distinct four-digit combinations
    CODES = [''.join(map(str, combo)) for combo in itertools.product(range(10), repeat=4)]

    # Loop through each combination and check for a match with the PIN
    for code in CODES:
        if code == PIN:
            print("OPEN")
            break
    else:
        print("PINCODE not found.")


if __name__ == "__main__":
    main()
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\chean\Downloads\Course Tutorial> & C:/Users/chean/AppData/Local/Programs/Python/Python312/python.exe
Enter your four-digit PINCODE: 464997
PINCODE not found.
PS C:\Users\chean\Downloads\Course Tutorial> & C:/Users/chean/AppData/Local/Programs/Python/Python312/python.exe
Enter your four-digit PINCODE: 1234
OPEN
PS C:\Users\chean\Downloads\Course Tutorial>
```

B. Let's play lotto!

1. Consider the 6/45 lottery of PCSO. Create a list of all possible combinations name it as "LUCKY NUMBERS".
2. Pick one combination from your list, print it as "TAYA-I NI".

Discrete-Lab3.py > ...

```python
import itertools

def generate_lucky_numbers():
    # Generate all possible combinations of 6 numbers chosen from 1 to 45
    lucky_numbers = list(itertools.combinations(range(1, 46), 6))
    return lucky_numbers

def main():
    # Generate all possible combinations of lucky numbers
    LUCKY_NUMBERS = generate_lucky_numbers()

    # Print the total number of combinations
    print(f"Total combinations of lucky numbers: {len(LUCKY_NUMBERS)}")

    # Let's pick one combination randomly
    import random
    taya_i_ni = random.choice(LUCKY_NUMBERS)

    # Print the chosen combination
    print("TAYA-I NI:", taya_i_ni)

if __name__ == "__main__":
    main()
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\chean\Downloads\Course Tutorial> & C:/Users/chean/AppData/Local/Programs/Python/Python312/python.exe
Total combinations of lucky numbers: 8145060
TAYA-I NI: (5, 16, 17, 24, 39, 43)
```