Week 4 Assignment

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Unit : ICT_102

WEEK 4 TUTORIAL :
Write a python program that contains a list with 10 students, and your program will pick some students from the list and print their id. You will ask user that how many students want to select from the list, remember it can be minimum 1 student or 10 students. No repetitive selection is allowed, and the program should keep running until the user want to exit. Please provide your source code.

Source Code :

```python
import random
students = {
    "SM1010001": "Shaila",
    "SM1010002": "Drishti",
    "SM1010003": "Jay",
    "SM1010004": "Vaishali",
    "SM1010005": "Uday",
    "SM1010006": "Katherine",
    "SM1010007": "Srishti",
    "SM1010008": "Martin",
    "SM1010009": "Mohit",
    "SM1010010": "Dazlo"
}

while True:
    print("Menu:")
    print("1. Search student by ID")
    print("2. Search student by name")
    print("3. Select random students by number")
    print("0. Exit program")

    choice = input("Enter your choice: ")

    if choice == '1':
        student_id = input("Enter student ID to search: ").strip().upper()
        if student_id in students:
```

```python
            print(f"Found student: ID: {student_id}, Name:
{students[student_id]}")
        else:
            print("Student not found.")

    elif choice == '2':
        search_name = input("Enter student name to search:
").strip().capitalize()
        found_students = [(sid, name) for sid, name in students.items() if name
== search_name]
        if found_students:
            print(f"Found student(s) with name '{search_name}':")
            for sid, name in found_students:
                print(f"ID: {sid}, Name: {name}")
        else:
            print(f"No student found with name '{search_name}'.")

    elif choice == '3':
        try:
            student_number = int(input("Please enter the number of students
(1-10): "))
            if 1 <= student_number <= 10:
                select_ids = random.sample(list(students.keys()),
k=student_number)
                print(f"Selected {student_number} random students:")
                for sid in select_ids:
                    print(f"ID: {sid}, Name: {students[sid]}")
            else:
                print("Invalid number. Please enter a number between 1 and 10.")
        except ValueError:
            print("Invalid input. Please enter a valid number.")

    elif choice == '0':
        print("Exiting program.")
        break

    else:
        print("Invalid choice. Please enter a valid option.")
```

Output :

C:\Users\61411\PycharmProjects\pythonProject\.venv\Scripts\py
thon.exe
C:\Users\61411\PycharmProjects\pythonProject\.venv\studentlis
t.py
Menu:
1. Search student by ID

```
2. Search student by name
3. Select random students by number
0. Exit program
Enter your choice: 1
Enter student ID to search: SM1010010
Found student: ID: SM1010010, Name: Dazlo
Menu:
1. Search student by ID
2. Search student by name
3. Select random students by number
0. Exit program
Enter your choice: 2
Enter student name to search: Katherine
Found student(s) with name 'Katherine':
ID: SM1010006, Name: Katherine
Menu:
1. Search student by ID
2. Search student by name
3. Select random students by number
0. Exit program
Enter your choice: 3
Please enter the number of students (1-10): 3
Selected 3 random students:
ID: SM1010005, Name: Uday
ID: SM1010010, Name: Dazlo
ID: SM1010002, Name: Drishti
Menu:
1. Search student by ID
2. Search student by name
3. Select random students by number
0. Exit program
Enter your choice:
```

Week 4 Lecture Practice Question

2. Array/List Example: Password Generator Project• Provider ID PRV14280 | CRICOS Provider Code 03906MA password generator program using lists to generate a strong password. The user will

enter how many characters, numbers and symbols want to use, and then the program will automatically generate a random password.

Program :

```python
import random

print("Welcome to the PyPassword Generator!")
nr_letters = int(input("How many letters would you like in your password?\n"))
nr_symbols = int(input("How many symbols would you like?\n"))
nr_numbers = int(input("How many numbers would you like?\n"))

letters = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm',
'n', 'o', 'p', 'q', 'r', 's', 't', 'u', 'v', 'w', 'x', 'y', 'z',
        'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N',
'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z']
numbers = ['0', '1', '2', '3', '4', '5', '6', '7', '8', '9']
symbols = ['!', '#', '$', '%', '&', '(', ')', '*', '+']

password_list = []
for _ in range(nr_letters):
    password_list.append(random.choice(letters))

for _ in range(nr_symbols):
    password_list.append(random.choice(symbols))

for _ in range(nr_numbers):
    password_list.append(random.choice(numbers))

random.shuffle(password_list)

password = ''.join(password_list)

print(f"Your password is: {password}")
```

Output :
C:\Users\61411\PycharmProjects\pythonProject\.venv\Scr
ipts\python.exe
"C:\Users\61411\PycharmProjects\pythonProject\.venv\Cr
eating password.py"
Welcome to the PyPassword Generator!
How many letters would you like in your password?
7
How many symbols would you like?

```
2
How many numbers would you like?
4
Your password is: 0E44%Hbbd*xJ3

Process finished with exit code 0
```