ATMIYA University
Faculty of Science
Department of Computer Application
Master of Computer Application
Code :-23PGCA207 | **Subject-Name:- Programming With Python**
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Practice Set-5

(1.)Create a list containing several strings. Take input from the user (search string); display whether # entered string is available in the list or not.

```
l = [1, 2.0, 'have', 'a', 'good', 'day']
s = 'god is the best'

if s in l:
    print("This is present in the list")
else:
    print("This is not present in the list")

# output:=
This is not present in the list
```

(2.) Accept the string from the user; display the message whether the entered string is palindrome or not.

```
my_str = 'iHaVEgOOdday'
# my_str = 'aIbohPhoBiA'
```

```
my_str = my_str.casefold()
rev_str = reversed(my_str)

if list(my_str) == list(rev_str):
   print("The string is a palindrome.")
else:
   print("The string is not a palindrome.")

# output:=
The string is not a palindrome.

   #OR

The string is a palindrome.
```

(3.)Accept the string from the user; display the string in the reverse order.

```
user_input = input("Enter a string: ")

# Display the string in reverse order
reversed_string = user_input[::-1]

print("Reversed string:", reversed_string)
```

```
# output:=
Enter a string: hi hello how are you.
Reversed string: .uoy era woh olleh ih
```

(4.)Accept the string from the user; allow user to choose from the following options and perform the task as per user's choice. i). Convert to the upper case, ii). Convert to the lower case, iii). Convert to the swap case, iv). Convert to the title case

```
# Accept input from the user
user_input = input("Enter a string: ")

# Display options to the user
print("Choose an option:")
print("1. Convert to upper case")
print("2. Convert to lower case")
print("3. Convert to swap case")
print("4. Convert to title case")

# Get user's choice
choice = input("Enter your choice (1/2/3/4): ")
```

```
# Perform the chosen operation
if choice == "1":
    result = user_input.upper()
elif choice == "2":
    result = user_input.lower()
elif choice == "3":
    result = user_input.swapcase()
elif choice == "4":
    result = user_input.title()
else:
    result = "Invalid choice"

# Display the result
print("Result:", result)

# output:=
Enter a string: ja is the best friend
Choose an option:
1. Convert to upper case
2. Convert to lower case
3. Convert to swap case
4. Convert to title case
Enter your choice (1/2/3/4): 1
Result: JA IS THE BEST FRIEND

Enter a string: hi mahesh good evenig
```

```
Choose an option:
1. Convert to upper case
2. Convert to lower case
3. Convert to swap case
4. Convert to title case
Enter your choice (1/2/3/4): 2
Result: hi mahesh good evenig

Enter a string: hi mehesh is good evening
Choose an option:
1. Convert to upper case
2. Convert to lower case
3. Convert to swap case
4. Convert to title case
Enter your choice (1/2/3/4): 3
Result: HI MEHESH IS GOOD EVENING

Enter a string:  hi mehesh is good evening
Choose an option:
1. Convert to upper case
2. Convert to lower case
3. Convert to swap case
4. Convert to title case
Enter your choice (1/2/3/4): 4
Result:  Hi Mehesh Is Good Evening
```

(5.)Allow users to enter multiple strings in the list; arrange the entered string into alphabetical order and display.

```
input_string = input("Enter multiple strings separated by spaces: ")

strings_list = input_string.split()
sorted_list = sorted(strings_list)

print("Sorted strings:")
for string in sorted_list:
    print(string)

# output:=
Enter multiple strings separated by spaces: the more that you read,things you will know.
Sorted strings:
know.
more
read,things
that
the
will
you
you
```

(6.) Create a tuple and display it. Enter 25 at the third position and display it again.

```
my_tuple = (1, 2, 3, 4, 5)

tuple_list = list(my_tuple)

tuple_list.insert(2, 25)

modified_tuple = tuple(tuple_list)

print("Modified Tuple:", modified_tuple)

# output:=
Modified Tuple: (1, 2, 25, 3, 4, 5)
```

(7.) Create a dictionary named library with following keys (Bookid, Title, Author, Price, Publisher).
a. Display the dictionary, b. Display the name of Author, c. Display the Bookid
d. Display the length of the dictionary, e. Update the price, f. Insert year as the new key and display the dictionary again.Create the dictionary

```
library = {
```

```
    'Bookid': '001',
    'Title': 'Python Programming',
    'Author': 'John Smith',
    'Price': 29.99,
    'Publisher': 'ABC Publications'
}

print("Library Dictionary:")
print(library)

print("\nAuthor:", library['Author'])

print("Bookid:", library['Bookid'])

print("Length of the Dictionary:", len(library))

library['Price'] = 34.99

library['Year'] = 2024

print("\nUpdated Library Dictionary:")
print(library)

# output:=
Library Dictionary:
```

```
{'Bookid': '001', 'Title': 'Python Programming',
'Author': 'John Smith', 'Price': 29.99, 'Publisher':
'ABC Publications'}

Author: John Smith
Bookid: 001
Length of the Dictionary: 5

Updated Library Dictionary:
{'Bookid': '001', 'Title': 'Python Programming',
'Author': 'John Smith', 'Price': 34.99, 'Publisher':
'ABC Publications', 'Year': 2024}
```

(8.) Create a numeric array and perform following operations on it: Add 2 to each elements, Subtract 3 from each element, Multiply each element with 3, Divide each element by 2, Find max and min, find the average of all elements.

```
numeric_array = [5, 10, 15, 20, 25]

numeric_array_added = [num + 2 for num in
numeric_array]

numeric_array_subtracted = [num - 3 for num in
numeric_array]
```

```
numeric_array_multiplied = [num * 3 for num in
numeric_array]

numeric_array_divided = [num / 2 for num in
numeric_array]

maximum = max(numeric_array)
minimum = min(numeric_array)

average = sum(numeric_array) / len(numeric_array)

print("Original array:", numeric_array)
print("Added 2:", numeric_array_added)
print("Subtracted 3:", numeric_array_subtracted)
print("Multiplied by 3:", numeric_array_multiplied)
print("Divided by 2:", numeric_array_divided)
print("Maximum:", maximum)
print("Minimum:", minimum)
print("Average:", average)

# output:=
# Original array: [5, 10, 15, 20, 25]
# Added 2: [7, 12, 17, 22, 27]
# Subtracted 3: [2, 7, 12, 17, 22]
# Multiplied by 3: [15, 30, 45, 60, 75]
```

```
# Divided by 2: [2.5, 5.0, 7.5, 10.0, 12.5]
# Maximum: 25
# Minimum: 5
# Average: 15.0
```

(9).Create a numeric array and do the following: append the element, pop the element, insert an element at the desired postion, reverse the elements in the array, convert the array to list.

```
numeric_array = [1, 2, 3, 4, 5]
numeric_array.append(6)
print("After appending:", numeric_array)

popped_element = numeric_array.pop()

print("Popped element:", popped_element)
print("After popping:", numeric_array)

desired_position = 2
element_to_insert = 10
numeric_array.insert(desired_position,
element_to_insert)

print("After inserting", element_to_insert, "at
position", desired_position, ":", numeric_array)
```

```
numeric_array.reverse()

print("After reversing:", numeric_array)

numeric_list = list(numeric_array)

print("Converted to list:", numeric_list)

#output:=
After appending: [1, 2, 3, 4, 5, 6]
Popped element: 6
After popping: [1, 2, 3, 4, 5]
After inserting 10 at position 2 : [1, 2, 10, 3, 4, 5]
After reversing: [5, 4, 3, 10, 2, 1]
Converted to list: [5, 4, 3, 10, 2, 1]
```

(10.) Accept numeric elements from the user, store it to the array and display. Ask user to enter search element. Display the position of the searched element.

```
numeric_array = []
num_elements = int(input("Enter the number of elements:
"))
```

```
for i in range(num_elements):
    element = float(input("Enter element {}:
".format(i+1)))
    numeric_array.append(element)

print("Array:", numeric_array)

search_element = float(input("Enter the element to
search for: "))

try:
    position = numeric_array.index(search_element)
    print("Position of the search element:", position)
except ValueError:
    print("Search element not found in the array.")

# output:=
Enter the number of elements: 5
Enter element 1: 78
Enter element 2: 89
Enter element 3: 80
Enter element 4: 90
Enter element 5: 56
Array: [78.0, 89.0, 80.0, 90.0, 56.0]
Enter the element to search for: 80
Position of the search element: 2
```

(11.) Take two arrays enter 5 digits in both arrays. Compare the corresponding element from each array and display only the bigger number.

```
array1 = []
array2 = []

print("Enter 5 digits for array1:")
for i in range(5):
    digit = int(input("Enter digit {}: ".format(i + 1)))
    array1.append(digit)

print("Enter 5 digits for array2:")
for i in range(5):
    digit = int(input("Enter digit {}: ".format(i + 1)))
    array2.append(digit)

print("Comparing corresponding elements:")
for i in range(5):
    if array1[i] > array2[i]:
        print("Bigger number:", array1[i])
    elif array1[i] < array2[i]:
        print("Bigger number:", array2[i])
```

```
    else:
        print("Both numbers are equal at index", i)

# output:=
Enter 5 digits for array1:
Enter digit 1: 23
Enter digit 2: 40
Enter digit 3: 70
Enter digit 4: 60
Enter digit 5: 43
Enter 5 digits for array2:
Enter digit 1: 96
Enter digit 2: 44
Enter digit 3: 33
Enter digit 4: 22
Enter digit 5: 88
Comparing corresponding elements:
Bigger number: 96
Bigger number: 44
Bigger number: 70
Bigger number: 60
Bigger number: 88
```

(12.) Accept dimension of the array and its values from the user, create an array as desired.

```
rows = int(input("Enter the number of rows: "))
cols = int(input("Enter the number of columns: "))

array = []

print("Enter values for the array:")
for i in range(rows):
    row = []
    for j in range(cols):
        value = input("Enter value for position ({},
{}): ".format(i, j))
        row.append(value)
    array.append(row)

print("Array:")
for row in array:
    print(row)

#output:=
Enter the number of rows: 2
Enter the number of columns: 4
Enter values for the array:
Enter value for position (0, 0): 2
Enter value for position (0, 1): 5
Enter value for position (0, 2): 6
Enter value for position (0, 3): 7
```

```
Enter value for position (1, 0): 8
Enter value for position (1, 1): 9
Enter value for position (1, 2): 8
Enter value for position (1, 3): 5
Array:
['2', '5', '6', '7']
['8', '9', '8', '5']
```

(13.) Create a function to calculate the simple interest.

```
principal = float(input("Enter the principal amount: "))
rate = float(input("Enter the rate of interest (in percentage): "))
time = float(input("Enter the time period (in years): "))

simple_interest = (principal * rate * time) / 100

print("Simple Interest:", simple_interest)

# output:=
Enter the principal amount: 700
Enter the rate of interest (in percentage): 60
Enter the time period (in years): 4
```

```
Simple Interest: 1680.0
```

(14.) Create a function to perform basic arithmetic operations on the number.

```
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

addition_result = num1 + num2
print("Addition Result:", addition_result)

subtraction_result = num1 - num2
print("Subtraction Result:", subtraction_result)

multiplication_result = num1 * num2
print("Multiplication Result:", multiplication_result)

if num2 != 0:
    division_result = num1 / num2
    print("Division Result:", division_result)
else:
    print("Cannot divide by zero.")

# output:=
Enter the first number: 60
Enter the second number: 70
```

```
Addition Result: 130.0
Subtraction Result: -10.0
Multiplication Result: 4200.0
Division Result: 0.8571428571428571
```

(15.) Accept multiple strings and store it into the list using function.

```
def lste(no):
    lst=[]
    for i in range(no):
        lst.append(input('Enter value of string : '))
    print(lst)

no=int(input('Enter number of strings you want to insert : '))
lste(no)

#Output
Enter number of strings you want to insert : 2
Enter value of string : 46
Enter value of string : 89
['46', '89']
```

(16.)Find the biggest number from three values using lambda.

```
def big_in_three(*args):
    return sorted(args, key=lambda x: x)[-1]

# Example usage
num1 = 10
num2 = 25
num3 = 15

result = big_in_three(num1, num2, num3)
print(f"Maximum Number: {result}")

# output:=
Maximum Number: 25
```

(17.)Demonstrate the use of: i). break and ii). pass.

```
# break:=

for num in range(0,10):
    if num == 5:
        break
    print(f'no: {num}')

# output:=
# no: 0
```

```
# no: 1
# no: 2
# no: 3
# no: 4

# pass:=

for num in range(0,10):
    if num == 5:
        pass
    print(f'no: {num}')

# output:=
no: 0
no: 1
no: 2
no: 3
no: 4
no: 5
no: 6
no: 7
no: 8
no: 9
```