ICP 1

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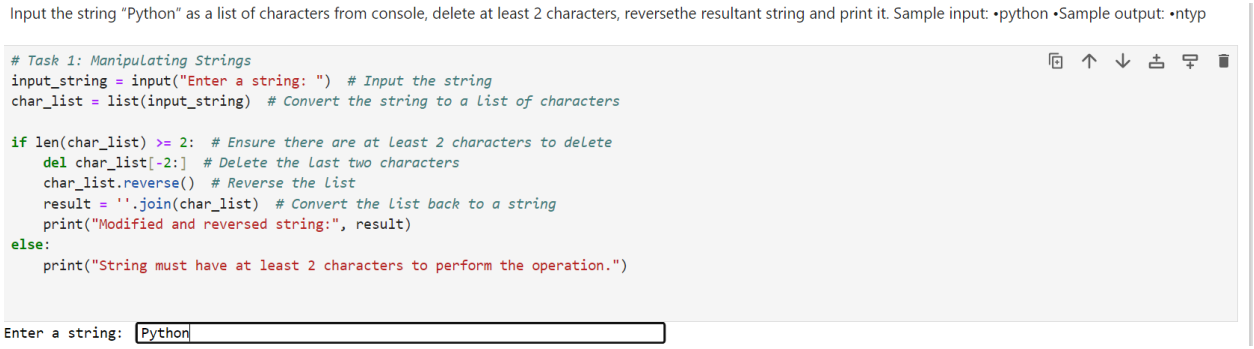
Google Drive Link :
https://drive.google.com/file/d/1FGBjiaW71PgJtlnHmFcumzZlwQEj-0fn/view?usp=drive_link

Github Link: https://github.com/Sampath119/ICP_-

1. Write a python program for the following: – Input the string "Python" as a list of characters from the console, delete at least 2 characters, reverse the resultant string and print it.
Sample input: • python
Sample output: • ntyp

Ans:
Here we enter a string called "python" where the result of it will be its reverse order with last 2 letters truncated.



Result:

```python
# Task 1: Manipulating Strings
input_string = input("Enter a string: ")  # Input the string
char_list = list(input_string)  # Convert the string to a list of characters

if len(char_list) >= 2:  # Ensure there are at least 2 characters to delete
    del char_list[-2:]  # Delete the last two characters
    char_list.reverse()  # Reverse the list
    result = ''.join(char_list)  # Convert the list back to a string
    print("Modified and reversed string:", result)
else:
    print("String must have at least 2 characters to perform the operation.")
```

```
Enter a string:  Python
Modified and reversed string: htyP
```

1.1 Take two numbers from user and perform at least 4 arithmetic operations on them.

Ans: Here we enter 2 number and the result will be its arithmetic operations

Eg: Enter 1st number as 25

```python
# Task 2: Arithmetic Operations
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Perform arithmetic operations
addition = num1 + num2
subtraction = num1 - num2
multiplication = num1 * num2

# Check if num2 is not 0 to avoid division by zero
if num2 != 0:
    division = num1 / num2
else:
    division = "Undefined (division by zero)"

print("Arithmetic Operations:")
print("Addition:", addition)
print("Subtraction:", subtraction)
print("Multiplication:", multiplication)
print("Division:", division)
```

```
Enter the first number: 25
```

And Enter 2nd number as 25

```python
# Task 2: Arithmetic Operations
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Perform arithmetic operations
addition = num1 + num2
subtraction = num1 - num2
multiplication = num1 * num2

# Check if num2 is not 0 to avoid division by zero
if num2 != 0:
    division = num1 / num2
else:
    division = "Undefined (division by zero)"

print("Arithmetic Operations:")
print("Addition:", addition)
print("Subtraction:", subtraction)
print("Multiplication:", multiplication)
print("Division:", division)
```

```
Enter the first number:  25
Enter the second number: 25
```

Now the result will be their arithmetic operations i.e addition, subtraction, multiplication, and division

```python
# Task 2: Arithmetic Operations
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

# Perform arithmetic operations
addition = num1 + num2
subtraction = num1 - num2
multiplication = num1 * num2

# Check if num2 is not 0 to avoid division by zero
if num2 != 0:
    division = num1 / num2
else:
    division = "Undefined (division by zero)"

print("Arithmetic Operations:")
print("Addition:", addition)
print("Subtraction:", subtraction)
print("Multiplication:", multiplication)
print("Division:", division)
```

```
Enter the first number:  25
Enter the second number:  25
Arithmetic Operations:
Addition: 50.0
Subtraction: 0.0
Multiplication: 625.0
Division: 1.0
```

2. Write a program that accepts a sentence and replace each occurrence of 'python' with 'pythons'.

- **Sample input: •I love playing with python**
- **Sample output: •I love playing with pythons**

Ans: Here we enter a sentence containing a word called python and result sentence has a word replaced to pythons

```python
def replace_python(sentence):
    replaced_sentence = sentence.replace("python", "pythons")
    return replaced_sentence

input_sentence = input("Enter a sentence: ")
modified_sentence = replace_python(input_sentence)
print("Modified sentence:", modified_sentence)
```

```
Enter a sentence: I love python
```

Result:

```python
def replace_python(sentence):
    replaced_sentence = sentence.replace("python", "pythons")
    return replaced_sentence

input_sentence = input("Enter a sentence: ")
modified_sentence = replace_python(input_sentence)
print("Modified sentence:", modified_sentence)
```

```
Enter a sentence:  I love python
Modified sentence: I love pythons
```

3. Use the if statement conditions to write a program to print the letter grade based on an input classscore. Use the grading scheme we are using in this class.

Ans: Here we grade the score based on input like if it is equal to or greater than 90 then its A grade, if equal to or greater than 80 then B grade, if equal to or greater than 70 then its C grade, and if equal to or greater than 60 its D grade, else it is fail

```
def calculate_class_grade(score):
    if score >= 90:
        return "A"
    elif score >= 80:
        return "B"
    elif score >= 70:
        return "C"
    elif score >= 60:
        return "D"
    else:
        return "F"

# Get input class score from the user
try:
    class_score = float(input("Enter the class score: "))
    if 0 <= class_score <= 100:
        letter_grade = calculate_class_grade(class_score)
        print("The letter grade for the score {:.2f} is: {}".format(class_score, letter_grade))
    else:
        print("Invalid score. Please enter a score between 0 and 100.")
except ValueError:
    print("Invalid input. Please enter a valid number.")
```

```
Enter the class score: 90
```

Result:

```
def calculate_class_grade(score):
    if score >= 90:
        return "A"
    elif score >= 80:
        return "B"
    elif score >= 70:
        return "C"
    elif score >= 60:
        return "D"
    else:
        return "F"

# Get input class score from the user
try:
    class_score = float(input("Enter the class score: "))
    if 0 <= class_score <= 100:
        letter_grade = calculate_class_grade(class_score)
        print("The letter grade for the score {:.2f} is: {}".format(class_score, letter_grade))
    else:
        print("Invalid score. Please enter a score between 0 and 100.")
except ValueError:
    print("Invalid input. Please enter a valid number.")
```

```
Enter the class score:  90
The letter grade for the score 90.00 is: A
```