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COMPUTER SCIENCE

ESAE-2022-0047-CSC-PAS

COMPUTER PROGRAMMING WITH PYTHON 1(CSC 205)

ASSIGNMENT

Q1a. Write a program to find and match a pattern in the given string.

Q1b. Add a replace feature to the program, so that it can replace the pattern matched in 1a above.

2. Write a program to reverse a given string and remove any numerical value in the string.

Answer

1a.

import re

def find\_pattern(input\_string, pattern):

# Use re.search() to find the pattern in the input string

match = re.search(pattern, input\_string)

if match:

# If a match is found, print the matched pattern

print("Pattern '{}' found in the given string.".format(match.group()))

else:

# If no match is found, print a message indicating no match

print("Pattern '{}' not found in the given string.".format(pattern))

# Example usage

input\_string = "This is a sample string containing the word 'sample'."

pattern\_to\_find = r'\bsample\b' # '\b' is a word boundary, ensuring whole word match

# Call the function with the input string and pattern

find\_pattern(input\_string, pattern\_to\_find)

1b.

import re

def find\_and\_replace\_pattern(input\_string, pattern, replacement):

# Use re.sub() to find the pattern and replace it with the specified string

updated\_string = re.sub(pattern, replacement, input\_string)

if updated\_string != input\_string:

# If replacements were made, print the updated string

print("Pattern '{}' found and replaced. Updated string: {}".format(pattern, updated\_string))

else:

# If no replacements were made, print a message indicating no match

print("Pattern '{}' not found in the given string.".format(pattern))

# Example usage

input\_string = "This is a sample string containing the word 'sample'. Sample is a sample word."

pattern\_to\_find = r'\bsample\b' # '\b' is a word boundary, ensuring whole word match

replacement\_string = "replacement"

# Call the function with the input string, pattern, and replacement string

find\_and\_replace\_pattern(input\_string, pattern\_to\_find, replacement\_string)

2.

def reverse\_and\_remove\_numbers(input\_string):

# Remove numerical values using isalpha() method and join the characters

cleaned\_string = ''.join(char for char in input\_string if char.isalpha())

# Reverse the cleaned string

reversed\_string = cleaned\_string[::-1]

return reversed\_string

# Example usage

input\_string = "Hello123World456"

result = reverse\_and\_remove\_numbers(input\_string)

print("Original String:", input\_string)

print("Modified String:", result)