**Regular Expression Practice Questions**

Question 1- Write a RegEx pattern in python program to check that a string contains only a certain set of characters (in this case a-z, A-Z and 0-9).

import re

def contains\_only\_allowed\_characters(input\_string):

pattern = r'^[a-zA-Z0-9]+$'

return re.match(pattern, input\_string) is not None

input\_word = input("Enter a word: ")

result = contains\_only\_allowed\_characters(input\_word)

if result:

print("The word contains only allowed characters.")

else:

print("The word contains characters other than a-z, A-Z, and 0-9.")

Question 2- Write a RegEx pattern that matches a string that has an a followed by zero or more b's

import re

def test\_word\_pattern(test\_string):

pattern = r'ab\*'

if re.match(pattern, test\_string):

print(f"'{test\_string}' matches the pattern.")

else:

print(f"'{test\_string}' does not match the pattern.")

# Input a word for testing from the user

test\_word = input("Enter a word to test: ")

# Perform the RegEx test on the input word using the specific pattern

test\_word\_pattern(test\_word)

Question 3- Write a RegEx pattern that matches a string that has an a followed by one or more b's

import re

def test\_word\_pattern(test\_string):

pattern = r'ab+'

if re.match(pattern, test\_string):

print(f"'{test\_string}' matches the pattern.")

else:

print(f"'{test\_string}' does not match the pattern.")

# Input a word for testing from the user

test\_word = input("Enter a word to test: ")

# Perform the RegEx test on the input word using the specific pattern

test\_word\_pattern(test\_word)

Question 4- Write a RegEx pattern that matches a string that has an a followed by zero or one 'b'.

import re

def test\_word\_pattern(test\_string):

pattern = r'ab?'

if re.match(pattern, test\_string):

print(f"'{test\_string}' matches the pattern.")

else:

print(f"'{test\_string}' does not match the pattern.")

# Input a word for testing from the user

test\_word = input("Enter a word to test: ")

# Perform the RegEx test on the input word using the specific pattern

test\_word\_pattern(test\_word)

Question 5- Write a RegEx pattern in python program that matches a string that has an a followed by three 'b'.

import re

def test\_word\_pattern(test\_string):

pattern = r'a{1}b{3}'

if re.search(pattern, test\_string):

print(f"'{test\_string}' matches the pattern.")

else:

print(f"'{test\_string}' does not match the pattern.")

# Input a word for testing from the user

test\_word = input("Enter a word to test: ")

# Perform the RegEx test on the input word using the specific pattern

test\_word\_pattern(test\_word)

Question 6- Write a RegEx pattern in python program that matches a string that has an a followed by two to three 'b'.

import re

def test\_word\_pattern(test\_string):

pattern = r'ab{2,3}'

if re.search(pattern, test\_string):

print(f"'{test\_string}' matches the pattern.")

else:

print(f"'{test\_string}' does not match the pattern.")

# Input a word for testing from the user

test\_word = input("Enter a word to test: ")

# Perform the RegEx test on the input word using the specific pattern

test\_word\_pattern(test\_word)

Question 7- Write a Python program that matches a string that has an 'a' followed by anything, ending in 'b'.

import re

def test\_word\_pattern(test\_string):

pattern = r'a.\*b$'

if re.search(pattern, test\_string):

print(f"'{test\_string}' matches the pattern.")

else:

print(f"'{test\_string}' does not match the pattern.")

# Input a word for testing from the user

test\_word = input("Enter a word to test: ")

# Perform the RegEx test on the input word using the specific pattern

test\_word\_pattern(test\_word)

Question 8- Write a RegEx pattern in python program that matches a word at the beginning of a string.

import re

def test\_word\_at\_beginning(test\_string, target\_word):

pattern = rf'^{re.escape(target\_word)}'

if re.match(pattern, test\_string):

print(f"'{test\_string}' starts with '{target\_word}'.")

else:

print(f"'{test\_string}' does not start with '{target\_word}'.")

# Input the specific word from the user

target\_word = input("Enter the specific word: ")

# Input a string for testing from the user

test\_string = input("Enter a string to test: ")

# Perform the RegEx test to check if the word appears at the beginning

test\_word\_at\_beginning(test\_string, target\_word)

Question 9- Write a RegEx pattern in python program that matches a word at the end of a string.

import re

def test\_word\_at\_end(test\_string, target\_word):

pattern = rf'{re.escape(target\_word)}$'

if re.search(pattern, test\_string):

print(f"'{test\_string}' ends with '{target\_word}'.")

else:

print(f"'{test\_string}' does not end with '{target\_word}'.")

# Input the specific word from the user

target\_word = input("Enter the specific word: ")

# Input a string for testing from the user

test\_string = input("Enter a string to test: ")

# Perform the RegEx test to check if the word appears at the end

test\_word\_at\_end(test\_string, target\_word)

Question 10- Write a RegEx pattern in python program to find all words that are 4 digits long in a string.

Sample text- '01 0132 231875 1458 301 2725.'

Expected output- ['0132', '1458', '2725']

import re

def find\_four\_digit\_words(input\_text):

pattern = r'\b\d{4}\b'

four\_digit\_words = re.findall(pattern, input\_text)

return four\_digit\_words

# Sample text

sample\_text = '01 0132 231875 1458 301 2725.'

# Find and print four-digit words

four\_digit\_words = find\_four\_digit\_words(sample\_text)

print(f"Four-digit words: {four\_digit\_words}")