Name - Jaykant Kumar

Batch – DS2405

Internship Program Flip Robo Technology

Date: 12/05/2024

Project 2

Q1. 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).

Ans.
```
import re

def is_allowed_specific_char(string):
    charRe = re.compile(r'[^a-zA-Z0-9]')
    string = charRe.search(string)
    return not bool(string)

print(is_allowed_specific_char("ABCDEFabcdef123450"))
print(is_allowed_specific_char("*&%@#!}{"))
```

Q2. Write a RegEx pattern that matches a string that has an a followed by zero or more b's

Ans.
```
import re

def text_match(text):
        patterns = '^a(b*)$'
        if re.search(patterns,  text):
                return 'Found a match!'
        else:
                return('Not matched!')
print(text_match("ac"))
print(text_match("abc"))
print(text_match("a"))
print(text_match("ab"))
print(text_match("abb"))
```

Q3. Write a RegEx pattern that matches a string that has an a followed by one or more b's

Ans.
```
import re

def text_match(text):
        patterns = 'ab+?'
        if re.search(patterns,  text):
                return 'Found a match!'
```

```
        else:
                return('Not matched!')

print(text_match("ab"))
print(text_match("abc"))
```

Q4. Write a RegEx pattern that matches a string that has an a followed by zero or one 'b'.

Ans. `import re`

```
def text_match(text):
        patterns = 'ab?'
        if re.search(patterns,  text):
                return 'Found a match!'
        else:
                return('Not matched!')

print(text_match("ab"))
print(text_match("abc"))
print(text_match("abbc"))
print(text_match("aabbc"))
```

Q5. Write a RegEx pattern in python program that matches a string that has an a followed by three 'b'.

Ans. `import re`

```
def text_match(text):

        patterns = 'ab{3}?'

        if re.search(patterns,  text):

                return 'Found a match!'

        else:

                return('Not matched!')


print(text_match("abbb"))

print(text_match("aabbbbbc"))
```

Q6. Write a RegEx pattern in python program that matches a string that has an a followed by two to three 'b'.

Ans. `import re`

```
def text_match(text):
        patterns = 'ab{2,3}'
        if re.search(patterns,  text):
                return 'Found a match!'
        else:
                return('Not matched!')
print(text_match("ab"))
print(text_match("aabbbbbc"))
```

Q7. Write a Python program that matches a string that has an 'a' followed by anything, ending in 'b'.

Ans.
```
import re
def text_match(text):
        patterns = 'a.*?b$'
        if re.search(patterns,  text):
                return 'Found a match!'
        else:
                return('Not matched!')

print(text_match("aabbbbd"))
print(text_match("aabAbbbc"))
print(text_match("accddbbjjjb"))
```

Q8. Write a RegEx pattern in python program that matches a word at the beginning of a string.

Ans.
```
import re
def text_match(text):
        patterns = '^\w+'
        if re.search(patterns,  text):
                return 'Found a match!'
        else:
                return('Not matched!')

print(text_match("The quick brown fox jumps over the lazy dog."))
print(text_match(" The quick brown fox jumps over the lazy dog."))
```

Q9. Write a RegEx pattern in python program that matches a word at the end of a string.

Ans.

```
import re

def text_match(text):
        patterns = '\w+\S*$'
        if re.search(patterns,  text):
                return 'Found a match!'
        else:
                return('Not matched!')

print(text_match("The quick brown fox jumps over the lazy dog."))
print(text_match("The quick brown fox jumps over the lazy dog. "))
print(text_match("The quick brown fox jumps over the lazy dog "))
```

Q10. 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']

Ans.

```
import re

text = '01 0132 231875 1458 301 2725.'

print(re.findall(r"\b\w{4,}\b", text))
```