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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).

Solution:

```
import re
material = 'abcEFG01234!'
pattern = r'[a-zA-Z0-9]+'
output = re.findall(pattern,material)
if output:
    print(f'material substring found:{output}')
else:
    print('substring not found')
```

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

Solutions:

```
import re
pattern = re.compile(r'ab*')
# Test the pattern
test_strings = ['a', 'ab', 'abb', 'aabb', 'ac', 'bc']
for test_string in test_strings:
    if pattern.match(test_string):
        print(f'{test_string} matches the pattern.')
    else:
        print(f'for example {test_string} does not match the pattern.')
```

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

Solution:

```
import re
```

```
pattern = re.compile(r'ab+')
```

```
# Test the pattern
```

```
test_strings = ['ab', 'abb', 'abbb', 'a', 'ac']
```

```
for test_string in test_strings:
```

```
    if pattern.match(test_string):
```

```
        print(f'{test_string} matches the pattern.')
```

```
    else:
```

```
        print(f'for example {test_string} does not match the pattern.')
```

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

Solutions:

```
import re
```

```
pattern = re.compile(r'ab?')
```

```
# Test the pattern
```

```
test_strings = ["a", "ab", "ac", "ad", "ae"]
```

```
for test_string in test_strings:
```

```
    if pattern.match(test_string):
```

```
        print(f'{test_string} matches the pattern.')
```

```
    else:
```

```
        print(f'{test_string} does not match the pattern.')
```

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

Solution:

```
import re
```

```
pattern = re.compile(r'abb{3}')
```

```
# Test the pattern
```

```
test_strings = ["abbb", "abbbb", "abb", "abc", "ab", "a"]
```

```
for test_string in test_strings:
```

```
    if pattern.match(test_string):
```

```
        print(f"{test_string} matches the pattern.")
```

```
    else:
```

```
        print(f"{test_string} does not match the pattern.")
```

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

Solution:

```
import re
```

```
pattern = re.compile(r'ab{2,3}')
```

```
# Test the pattern
```

```
test_strings = ["abb", "abbb", "abbbb", "abc", "ab", "a"]
```

```
for test_string in test_strings:
```

```

if pattern.match(test_string):
    print(f'{test_string} matches the pattern.')
else:
    print(f'{test_string} does not match the pattern.')

```

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

Solution

```

import re

pattern = re.compile(r'a.*b$')

#Testing pattern
material = ['abc','a123b','ac','abbb','axyzb']
for item in material:
    if pattern.match(item):
        print(f'{item} matches the pattern')
    else:
        print(f'{item} does not match the pattern.')

```

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

Solution:

```

import re

pattern = re.compile(r'^\w')
material = ['Action','a1234b','123abc','!Phone','%_of_crime','Word']
for item in material:
    if pattern.match(item):
        print(f'{item} matches the pattern')
    else:
        print(f'{item} does not match the pattern.')

```

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

Solution

```
import re
```

```
pattern = re.compile(r'\w+$')
```

```
# Test the pattern
```

```
material = ['Hello', '123abc', 'Word', 'Special!', '12345']
```

```
for item in material:
```

```
    if pattern.match(item):
```

```
        print(f'{item} matches the pattern.')
```

```
    else:
```

```
        print(f'{item} does not match the pattern.')
```

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']

Solutions

```
import re
```

```
pattern = re.compile(r'\b\d{4}\b')
```

```
sample_text = '01 0132 231875 1458 301 2725.'
```

```
matchs = pattern.findall(sample_text)
```

```
print(f'Four Digits: {matchs}')
```