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: def string_contained_char(string):

    charRe = re.compile(r'[^a-zA-Z0-9]')

    string = charRe.search(string)

     return not bool(string)

Print(string_contained_char("ABCDEFpython1234"))

print(string_contained_char("$&#*@%!}{"))

Print(string_contained_char("ISRO890#$@&}{"))

O/P: True

    False

    False

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

SOLUTION: : def text_is(text):

    patterns = '^ab*?'

    if re.search(patterns, text):

        return ('Its a match!')

    else:

        return('Not matched!')

print(text_is("ac"))

print(text_is("abc"))

print(text_is("abbc"))

print(text_is("ba"))

O/P:

Its a match!

Its a match!

Its a match!

Not matched!

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

SOLUTION: def text_is(text):

    patterns = 'ab+?'

    if re.search(patterns, text):

        return 'Its match!'

    else:

        return('Not matched!')

print(text_is("ab"))

print(text_is("abc"))

print(text_is("ac"))

OUTPUT:

Its match!

Its match!

Not matched!

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

SOLUTION: def text_is(text):

    patterns = 'ab?'

    if re.search(patterns, text):

        return 'Its a match!'

    else:

        return('Not matched!')

print(text_is("ab"))

print(text_is("abc"))

print(text_is("bbc"))

print(text_is("aabbc"))

OUTPUT: Its a match!

            Its a match!

            Not matched!

            Its a match!

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

SOLUTION:

```
def text_is(text):
    patterns = 'ab{3}?'
    if re.search(patterns, text):
        return 'Found a match!'
    else:
        return('Not matched!')


print(text_is("abbb"))
print(text_is("aabbbbbgc"))
print(text_is("aabababc"))
```

OUTPUT: Found a match!

            Found a match!

            Not matched!

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

SOLUTION:

```
def text_is(text):
    patterns = 'ab{2,3}?'
    if re.search(patterns, text):
        return 'Its a match!'
    else:
        return('Not matched!')


print(text_is("ab"))
print(text_is("abb"))
```

print(text_is("aabbbbbc"))

OUTPUT: Not matched!

             Its a match!

             Its a match!

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

SOLUTION:

def text_is(text):

    patterns = 'a.*?b$'

    if re.search(patterns, text):

         return 'Found a match!'

    else:

         return('Not matched!')

print(text_is("abcd"))

print(text_is("acchhfb"))

print(text_is("accddbbjjjb"))

OUTPUT: Not matched!

             Found a match!

             Found a match!

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

SOLUTION:

def text_is(text):

    patterns = '^\w+'

    if re.search(patterns, text):

         return 'Its a match!'

    else:

         return('Not matched!')

print(text_is("G20"))

print(text_is(" #G20"))

print(text_is("Bhaaratam asmaakam matrabhumihi"))

SOLUTION:

Its a match!

Not matched!

Its a match!

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

Write a Python program that matches a word at the end of a string, with optional punctuation.

SOLUTION:

```python
import re

def text_is(text):


    #patterns = '\w+\S*\w[^0-9][A-Za-z][^?!.]*[?.!]$'

    #patterns = '\s+[A-Za-z]+\W?\Z$'

     #patterns = '^[A-Za-z][\w\s]+[?.!]$'

      #patterns = '\b\w+[.!?,:]*$'

    patterns = '\w+\s\S*[^?!.]?$'

    if re.search(patterns,  text):

         return( 'Its  a match!')

    else:

         return('Not matched!')
print(text_is("abhhc"))

print(text_is("abbnoc"))

print(text_is("ab34"))

print(text_is("bab"))

print(text_is("We must continue to believe in the power of diplomacy, India says in UN speech!."))
```

OUTPUT:

Not matched!

Not matched!

Not matched!

Not matched!

Its a match!

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']

SOLUTION:

#pattern='\w{4}\s'

pattern= r"\b\w{4}\b"

text='01 0132 231875 1458 301 2725'

matches= re.findall(pattern,text)

print(matches)

OUTPUT:

['0132', '1458', '2725']