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).

```
In [56]: import re
         string = ['Abava556/-', 'Amelia62*%#', 'Abigail44', 'Raj$#%^', 'Dd*&46', 'Sam']

         results = []


         for s in string:
             result = re.search(r'^[a-zA-Z0-9]+$',s)
             results.append(result)

         results

Out[56]: [None,
          None,
          <re.Match object; span=(0, 9), match='Abigail44'>,
          None,
          None,
          <re.Match object; span=(0, 3), match='Sam'>]
```

result = re.search(r'^[a-zA-Z0-9]+$',s)

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

```
In [44]: x = ['Abava', 'Amelia', 'Abigail', 'Raj', 'Dd', 'Sam', 'Abi', 'Alexander', 'Aiden', 'Anthony', 'bala']

         string= [item.lower() for item in x]
         results = []


         for s in string:
             result = re.search(r'^a(b*)',s)
             results.append(result)

         results

Out[44]: [<re.Match object; span=(0, 2), match='ab'>,
          <re.Match object; span=(0, 1), match='a'>,
          <re.Match object; span=(0, 2), match='ab'>,
          None,
          None,
          None,
          <re.Match object; span=(0, 2), match='ab'>,
          <re.Match object; span=(0, 1), match='a'>,
          <re.Match object; span=(0, 1), match='a'>,
          <re.Match object; span=(0, 1), match='a'>,
          None]
```

result = re.search(r'^a[b]*',s)

result = re.search(r'^a(b*)',s)

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

```
In [45]: x = ['Abava', 'Amelia', 'Abigail', 'Raj', 'Dd', 'Sam', 'Abi', 'Alexander', 'Aiden', 'Anthony', 'bala']

         string= [item.lower() for item in x]
         results = []


         for s in string:
             result = re.search(r'^a(b+)',s)
             results.append(result)

         results

Out[45]: [<re.Match object; span=(0, 2), match='ab'>,
          None,
          <re.Match object; span=(0, 2), match='ab'>,
          None,
          None,
          None,
          <re.Match object; span=(0, 2), match='ab'>,
          None,
          None,
          None,
          None]
```

result = re.search(r'^a[b]+',s)

result = re.search(r'^a(b+)',s)

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

```
In [56]: x = ['Abava','Amelia', 'Abigail', 'Raj', 'Dd', 'Sam', 'Abi', 'Alexander', 'Aiden', 'Anthony', 'bala','abb']

         string= [item.lower() for item in x]
         results = []

         for s in string:
             result = re.search(r'^a[b]?',s)
             results.append(result)

         results

Out[56]: [<re.Match object; span=(0, 2), match='ab'>,
          <re.Match object; span=(0, 1), match='a'>,
          <re.Match object; span=(0, 2), match='ab'>,
          None,
          None,
          None,
          <re.Match object; span=(0, 2), match='ab'>,
          <re.Match object; span=(0, 1), match='a'>,
          <re.Match object; span=(0, 1), match='a'>,
          <re.Match object; span=(0, 1), match='a'>,
          None,
          <re.Match object; span=(0, 2), match='ab'>]
```

result = re.search(r'^a(b?)',s)

result = re.search(r'^a[b]?',s)

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

```
In [57]: x = ['Abava','Amelia', 'Abigail', 'Raj', 'Dd', 'Sam', 'Abi', 'Alexander', 'Aiden', 'Anthony', 'bala','abbbb']

         string= [item.lower() for item in x]
         results = []

         for s in string:
             result = re.search(r'^a[b]{3}',s)
             results.append(result)

         results

Out[57]: [None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          <re.Match object; span=(0, 4), match='abbb'>]
```

result = re.search(r'^a[b]{3}',s)

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

```
In [60]: x = ['Abava','Amelia', 'Abigail', 'Raj', 'Dd', 'Sam', 'Abi', 'Alexander', 'Aiden', 'Anthony', 'bala','abbbb','abb']

         string= [item.lower() for item in x]
         results = []

         for s in string:
             result = re.search(r'^a[b]{2,3}',s)
             results.append(result)

         results

Out[60]: [None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          <re.Match object; span=(0, 4), match='abbb'>,
          <re.Match object; span=(0, 3), match='abb'>]
```

result = re.search(r'^a[b]{2,3}',s)

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

```
In [38]: x = ['Abava','Amelia', 'Abigail', 'Raj', 'Dd', 'Sam', 'Abi', 'Alexander', 'Aiden', 'Anthony', 'bala','abbbb','achgkhb']

         string= [item.lower() for item in x]
         results = []

         for s in string:
             result = re.search(r'^a.*b$',s)
             results.append(result)

         results

Out[38]: [None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          None,
          <re.Match object; span=(0, 5), match='abbbb'>,
          <re.Match object; span=(0, 7), match='achgkhb'>]
```

result = re.search(r'^a\w*b$',s)

result = re.search(r'^a.*b$',s)

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

```
In [45]: string = ['Hello world!','Abava','Amelia']

         #string= [item.lower() for item in x]
         results = []

         |
         for s in string:
             result = re.search(r'\b\w+',s)
             results.append(result)

         results

Out[45]: [<re.Match object; span=(0, 5), match='Hello'>,
          <re.Match object; span=(0, 5), match='Abava'>,
          <re.Match object; span=(0, 6), match='Amelia'>]
```

result = re.search(r'\b\w+',s)

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

```
In [42]: string = ['Hello world','Hello world!','Abava','Amelia']

         #string= [item.lower() for item in x]
         results = []

         for s in string:
             result = re.search(r'\w+\b$',s)
             results.append(result)

         results

Out[42]: [<re.Match object; span=(6, 11), match='world'>,
          None,
          <re.Match object; span=(0, 5), match='Abava'>,
          <re.Match object; span=(0, 6), match='Amelia'>]
```

result = re.search(r'\w+\b$',s)

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']

```
In [52]: sample_text = '01 0132 231875 1458 301 2725'

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

         matches = re.findall(pattern,sample_text)

         matches

Out[52]: ['0132', '1458', '2725']
```

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