```
In [2]:  1

Out[2]:  1

In [3]:  import re

In [3]:  text = 'Python Exercises, PHP exercises.'
         print(re.sub("[ ,.]", ":", text))

         Python:Exercises::PHP:exercises:

In [4]:  2

Out[4]:  2

In [4]:  text = "The following example creates an ArrayList with a capacity of elements. Four elements are then added to the ArrayList and the ArrayList is trimmed acc

         list = re.findall("[ae]\w+", text)

         print(list)

         ['example', 'eates', 'an', 'ayList', 'apacity', 'elements', 'elements', 'are', 'en', 'added', 'ayList', 'and', 'ayList', 'ed', 'accordingly']

In [6]:  3

Out[6]:  3

In [6]:  import string
         text = "Ansh's favorite dish are Samosa, Pizza, Pasta, Jalebi"

In [7]:  string_pattern = r"\b\w{4,}\b"
         regex_pattern = re.compile(string_pattern)
         result = regex_pattern.findall(text)
         print(result)

         ['Ansh', 'favorite', 'dish', 'Samosa', 'Pizza', 'Pasta', 'Jalebi']

In [8]:  4

Out[8]:  4

In [9]:  string_pattern = r"\b\w{3,5}\b"
         regex_pattern = re.compile(string_pattern)
         result = regex_pattern.findall(text)
         print(result)

         ['Ansh', 'dish', 'are', 'Pizza', 'Pasta']

In [11]: 5

Out[11]: 5

In [26]: Text = ["example (.com)", "hr@fliprobo (.com)", "github (.com)", "Hello (Data Science World)", "Data (Scientist)"]

In [ ]:

In [47]: import re

         Text = "example(.com)"
         print(re.sub('[()]', '', Text))
         Text = "hr@fliprobo(.com)"
         print(re.sub('[()]', '', Text))
         Text = "github(.com)"
         print(re.sub('[()]', '', Text))
         Text = "Hello(Data Science World)"
         print(re.sub('[()]', '', Text))
         Text = "Data (Scientist)"
         print(re.sub('[()]', '', Text))

         example.com
         hr@fliprobo.com
         github.com
         HelloData Science World
         Data Scientist

In [77]: 6

Out[77]: 6

In [57]: items = ["example (.com)", "hr@fliprobo (.com)", "github (.com)", "Hello (Data Science World)", "Data (Scientist)"]
         for item in items:
             print(re.sub(r" ?\([^)]+\)", "", item))

         example
         hr@fliprobo
         github
         Hello
         Data

In [78]: 7

Out[78]: 7

In [76]: text = "ImportanceOfRegularExpressionsInPython"
         print(re.findall('[A-Z][^A-Z]*', text))

         ['Importance', 'Of', 'Regular', 'Expressions', 'In', 'Python']

In [79]: 8

Out[79]: 8

In [88]: def words_spaces_with_numbers(str1):
           return re.sub(r"(\w)([A-Z])", r"\1 \2", str1)

         print(words_spaces_with_numbers("RegularExpression1IsAn2ImportantTopic3InPython"))

         Regular Expression1 Is An2 Important Topic3 In Python

In [89]: 9

Out[89]: 9

In [93]: test_str = "RegularExpression1IsAn2ImportantTopic3InPython"

         res = re.sub("[A-Za-z]+", lambda ele: " " + ele[0] + " ", test_str)

         print( str(res))

          RegularExpression 1 IsAn 2 ImportantTopic 3 InPython

In [94]: 10

Out[94]: 10

In [132…  A = 'Hello my name is Data Science and my email address is xyz@domain.com and alternate email address is xyz.abc@sdomain.domain.com.'
         Email = re.findall('\S+@\S+', A)
         print(Email)

         B = 'Please contact us at hr@fliprobo.com for further information'
         Email = re.findall('\S+@\S+', B)
         print(Email)

         ['xyz@domain.com', 'xyz.abc@sdomain.domain.com.']
         ['hr@fliprobo.com']

In [133… 11

Out[133]: 11

In [137… def text_match(text):
                 patterns = '^[a-zA-Z0-9_]*$'
                 if re.search(patterns,  text):
                         return 'Found a match!'
                 else:
                         return('Not matched!')

         print(text_match("Ansh's favorite dish are Samosa, Pizza, Pasta, Jalebi"))
         print(text_match("Python_Assignment_4"))

         Not matched!
         Found a match!

In [138… 12

Out[138]: 12

In [144… def match_num(string):
             text = re.compile(r"^15")
             if text.match(string):
                 return True
             else:
                 return False
         print(match_num('15-02345861'))
         print(match_num('23-02345861'))

         True
         False

In [145… 13

Out[145]: 13

In [149… ip = "978.07.049.087"
         string = re.sub('\.[0]*', '.', ip)
         print(string)

         978.7.49.87

In [150… 14

Out[150]: 14

In [153… 15

Out[153]: 15

In [154… patterns = [ 'fox', 'dog', 'horse' ]
         text = 'The quick brown fox jumps over the lazy dog.'
         for pattern in patterns:
             print('Searching for "%s" in "%s" ->' % (pattern, text),)
             if re.search(pattern,  text):
                 print('Matched!')
             else:
                 print('Not Matched!')

         Searching for "fox" in "The quick brown fox jumps over the lazy dog." ->
         Matched!
         Searching for "dog" in "The quick brown fox jumps over the lazy dog." ->
         Matched!
         Searching for "horse" in "The quick brown fox jumps over the lazy dog." ->
         Not Matched!

In [155… 16

Out[155]: 16

In [156… pattern = 'fox'
         text = 'The quick brown fox jumps over the lazy dog.'
         match = re.search(pattern, text)
         s = match.start()
         e = match.end()
         print('Found "%s" in "%s" from %d to %d ' % \
             (match.re.pattern, match.string, s, e))

         Found "fox" in "The quick brown fox jumps over the lazy dog." from 16 to 19

In [157… 17

Out[157]: 17

In [158… import re
         text = 'Python exercises, PHP exercises, C# exercises'
         pattern = 'exercises'
         for match in re.findall(pattern, text):
             print('Found "%s"' % match)

         Found "exercises"
         Found "exercises"
         Found "exercises"

In [159… 18

Out[159]: 18

In [160… text = 'Python exercises, PHP exercises, C# exercises'
         pattern = 'exercises'
         for match in re.finditer(pattern, text):
             s = match.start()
             e = match.end()
             print('Found "%s" at %d:%d' % (text[s:e], s, e))

         Found "exercises" at 7:16
         Found "exercises" at 22:31
         Found "exercises" at 36:45

In [161… 19

Out[161]: 19

In [163… def change_date_format(dt):
                 return re.sub(r'(\d{4})-(\d{1,2})-(\d{1,2})', '\\3-\\2-\\1', dt)
         dt1 = "2026-01-02"
         print(" YYY-MM-DD : ",dt1)
         print(" DD-MM-YYYY : ",change_date_format(dt1))

          YYY-MM-DD :  2026-01-02
          DD-MM-YYYY :  02-01-2026

In [164… 20

Out[164]: 20

In [61]: def is_decimal(num):
             import re
             dnumre = re.compile(r"""^[0-9]+(\.[0-9]{1,2})?$""")
             result = dnumre.search(num)
             return bool(result)

         print(is_decimal('123.11'))
         print(is_decimal('123.1'))
         print(is_decimal('123'))
         print(is_decimal('0.21'))
         print(is_decimal('123.1214'))
         print(is_decimal('3.124587'))
         print(is_decimal('e666.86'))

         True
         True
         True
         True
         False
         False
         False

In [165… 21

Out[165]: 21

In [166… text = "The following example creates an ArrayList with a capacity of 50 elements. Four elements are then added to the ArrayList and the ArrayList is trimmed a

         for m in re.finditer("\d+", text):
             print(m.group(0))
             print("Index position:", m.start())

         50
         Index position: 62

In [167… 22

Out[167]: 22

In [6]:  import re
         string= 'My marks in each semester are: 947, 896, 926, 524, 734, 950, 642'
         number = re.findall('\d+', string)
         number = map(int, number)
         print(max(number))

         950

In [7]:  23

Out[7]:  23

In [9]:  import re
         def capital_words_spaces(str1):
           return re.sub(r"(\w)([A-Z])", r"\1 \2", str1)

         print(capital_words_spaces("RegularExpressionIsAnImportantTopicInPython"))

         Regular Expression Is An Important Topic In Python

In [10]: 24

Out[10]: 24

In [16]: def text_match(text):
                 patterns = '[A-Z]+[a-z]+$'
                 if re.search(patterns, text):
                         return 'matched'
                 else:
                         return('Not matched')
         print(text_match("AaBbGg"))
         print(text_match("PRAKASH"))
         print(text_match("Prakash"))
         print(text_match("pRakash"))

         matched
         Not matched
         matched
         matched

In [17]: 25

Out[17]: 25

In [31]: Text = "Hello hello world world"
         l = s.split()
         k = []
         for i in l:

             if (Text.count(i)>=1 and (i not in k)):
                 k.append(i)
         print(' '.join(k))

         Hello hello world

In [32]: 26

Out[32]: 26

In [36]: if __name__ == '__main__' :

             string = "Prakash@"
             check(string)

             string = "Satyaprakash1595"
             check(string)

             string = "Satya"
             check(string)

             string = "PrakashSahuPrakash"
             check(string)

         regex = '[a-zA-z0-9]$'

         def check(string):

             if(re.search(regex, string)):
                 print("Accept")

             else:
                 print("Discard")

         Discard
         Accept
         Accept
         Accept

In [37]: 27

Out[37]: 27

In [46]: Text = """RT @kapil_kausik: #Doltiwal I mean #xyzabc is "hurt" by #Demonetization as the same has rendered USELESS <ed><U+00A0><U+00BD><ed><U+00B1><U+0089> "ac
         re.findall(r'\B#\w*[a-zA-Z]+\w*', Text)

Out[46]: ['#Doltiwal', '#xyzabc', '#Demonetization']

In [47]: 28

Out[47]: 28

In [55]: Text = "@Jags123456 Bharat band on 28??<ed><U+00A0><U+00BD><ed><U+00B8><U+0082>Those who  are protesting #demonetization  are all different party leaders"

         Output = re.sub(r"(\xe9|\362)", "", Text)

         print(Output)

         @Jags123456 Bharat band on 28??<ed><U+00A0><U+00BD><ed><U+00B8><U+0082>Those who  are protesting #demonetization  are all different party leaders

In [56]: 29

Out[56]: 29

In [28]: f = open("Extract Date", "r")
         content = f.read()
         pattern = "\d{2}[/-]\d{2}[/-]\d{4}"
         dates = re.findall(pattern, content)
         for date in dates:
             if "-" in date:
                 day, month, year = map(int, date.split("-"))
             else:
                 day, month, year = map(int, date.split("/"))
             if 1 <= day <= 31 and 1 <= month <= 12:
                 print(date)
         f.close()

         12-09-1992
         15-12-1999

In [31]: 30

Out[31]: 30

In [51]:  re.sub(r'\b\w{2,4}\b','',"The following example creates an ArrayList with a capacity of 50 elements. 4elements are then added to the ArrayList and the ArrayL

Out[51]: ' following example creates  ArrayList  a capacity   elements. 4elements   added   ArrayList   ArrayList  trimmed accordingly.'
```