The exercise is executed in Python 3.7.3

```
1
url=["www.annauniv.edu", "www.google.com","www.ndtv.com"," www.website.org"," www.bis.org.in","
www.rbi.org.in"]
def srtf(s):
    return s.split('.')[-1]


print(sorted(url,key = srtf))
```

['www.google.com', 'www.ndtv.com', 'www.annauniv.edu', ' www.bis.org.in', ' www.rbi.org.in',
'www.website.org']


```
2
lista = ['axa','xyz','gg','x','yyy']
listb = ['x','cd','cnc','kk']
listc = ['bab','ce','cba','syanora']

def strcount(listt):
    cnt = 0
    for strg in listt:
        if (len(strg)>=2) and (strg[0] == strg[-1]):
            cnt+=1
    return cnt

print (strcount(lista))
print (strcount(listb))
print (strcount(listc))
```
3
2
1


```
3
lista = ['bbb', 'ccc', 'axx', 'xzz', 'xaa']
listb = ['mix', 'xyz', 'apple', 'xanadu', 'aardvark']

xlist = []
def sortlist1(listt):
    for stng in listt[:]:
        if stng[0].startswith('x'):
            xlist.append(stng)
            listt.remove(stng)
    print(sorted(xlist)+sorted(listt))
    del xlist[:]

 print(sortlist1(lista))
print(sortlist1(listb))
```

['xaa', 'xzz', 'axx', 'bbb', 'ccc']
['xanadu', 'xyz', 'aardvark', 'apple', 'mix']

```
4
tup1= [(1, 3), (3, 2), (2, 1)]
tup2 = [(1, 7), (1, 3), (3, 4, 5), (2, 2)]

def lastElement(tup):
    return tup[-1]

def srtTup(listt):
    tmpvalue = listt
    tmpvalue.sort(key = lastElement)
    return tmpvalue

print(srtTup(tup1))
print(srtTup(tup2))
```

[(2, 1), (3, 2), (1, 3)]
[(2, 2), (1, 3), (3, 4, 5), (1, 7)]

```
5
li_a=[1, 2, 2, 3]
li_b=[2, 2, 3, 3, 3]
def listUni(listt):
    i = 1
    for elt in listt[ : ]:
        while i < len(listt):
            if listt[i] == listt[i-1]:
                listt.pop(i)
                i -= 1
            i += 1
    return listt

print(listUni(li_a))
print(listUni(li_b))
```
[1, 2, 3]
[2, 3]

```
6
bookstore = {"New Arrivals":{"COOKING":["Everyday Italian","Giada De
Laurentiis","2005","30.00"],"CHILDREN":["Harry Potter","J K.Rowling","2005","29.99"],"WEB":["Learning
XML","Erik T. Ray","2003","39.95"]}}
print (bookstore)

for dicn in bookstore.values():
    for lis in dicn.values():
        strn=str(lis)
        strn=strn[1:len(strn)-1]
        print (strn)
```
{'New Arrivals': {'COOKING': ['Everyday Italian', 'Giada De Laurentiis', '2005', '30.00'], 'CHILDREN': ['Harry
Potter', 'J K.Rowling', '2005', '29.99'], 'WEB': ['Learning XML', 'Erik T. Ray', '2003', '39.95']}}

'Everyday Italian', 'Giada De Laurentiis', '2005', '30.00'
'Harry Potter', 'J K.Rowling', '2005', '29.99'
'Learning XML', 'Erik T. Ray', '2003', '39.95'

```
7
str1 ="Python is a widely used high-level programming language for general-purpose programming, created by
Guido van Rossum and first released in 1991. An interpreted language, Python has a design philosophy which
emphasizes code readability (notably using whitespace indentation to delimit code blocks rather than curly
braces or keywords), and a syntax which allows programmers to express concepts in fewer lines of code than
possible in languages such as C++ or Java. The language provides constructs intended to enable writing clear
programs on both a small and large scale .Python features a dynamic type system and automatic memory
management and supports multiple programming paradigms, including object-oriented, imperative, functional
programming, and procedural styles. It has a large and comprehensive standard library. Python interpreters
are available for many operating systems, allowing Python code to run on a wide variety of systems. CPython,
the reference implementation of Python, is open source software and has a community-based development
model, as do nearly all of its variant implementations. CPython is managed by the non-profit Python Software
Foundation."

wordCountV={}
wordList=str1.split()
for word in wordList:
    wordCountV[word]=str1.count(word)



values=wordCountV.values()
values=sorted(values)
values.reverse()
topFive=values[0:5]
printCount=0

for v in topFive:
    for word in  wordCountV:
        if wordCountV[word] == v:
            print (word,wordCountV[word])
            printCount+=1
            if printCount==5:
                break
    if printCount==5:
        break
```

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8

```
 str1="Python is a widely used high-level programming langauage for general-purpose prograaming, created by Guido van Rossum and first released in 1991. An interpreted language, Python has a design philosophy which emphasizes code readability (notably using whitespace indentation to delimit code blocks rather than curly braces or keywords), and a syntax which allows programmers to concpets in fewer lines of code than possible languages such as C++ or Java. The language provides constructs inteneded to enable writing clear programs on both a small scale and a large scale. Python featues a dynamic type system and sutomatic memory management and supports multiple programming paradgms,including object-oriented, imperative, functional programming, and procedural styles. It has a large and comprehensive standard library. Python interpreters are available for many operating systems, allowing Python code to run on a wide variety of systems. CPython , the reference implementation of Python, is opne source software and has a community-based development model, as do nearly all of its variant implementations. CPython os managed by the non-profit Python Software Foundation."

def getDicn(strn):
    dicn={}
    wordList=strn.split()
    length=len(wordList)
    for index,word in enumerate(wordList):
        if word in dicn:
            continue
        tmpList=[]
        for i in range(index,length):
            if index==length-1:
                break
            if word==wordList[i]:
                nextWord=wordList[i+1]
                tmpList.append(nextWord)

        dicn[word]=tmpList
    return dicn

def project(strn,word):
    wordDictionary=getDicn(strn)
    print ( "In the given string, the word ' ",word,"' is followed by the list of words",wordDictionary[word])

#calling the function
project(str1,"programming")
```

In the given string, the word ' programming ' is followed by the list of words ['langauage', 'paradgms,including']

9
```
import re


str1="""Interface      IP-Address    OK?   Method   Status   Protocol

FastEthernet0/0      192.168.1.242 YES    manual   up       up
FastEthernet1/0      unassigned    YES    unset    down
```

```
Serial2/0        192.168.1.250 YES    manual   upup
Serial3/0        192.168.1.233 YES    manual   upup
FastEthernet4/0     unassigned  YES    unset    down
FastEthernet5/0     unassigned  YES    unset    down"""


print ("     ")
for line in str1.splitlines():

   matchObj = re.match( r'(\w+\d\/\d)\s+[.0-9a-z]+\s+\w+\s+(\w+\s?\w+?)\s+\w+', line, re.M|re.I)

   if matchObj:
       print  (matchObj.group(1),",",matchObj.group(2))
```

FastEthernet0/0 , manual
FastEthernet1/0 , unset
Serial2/0 , manual
Serial3/0 , manual
FastEthernet4/0 , unset
FastEthernet5/0 , unset

```
10
def reachNumber(target):

   #Taking the abs to accept the positive and negative number
   target = abs(target)
   # Proceeding while sum is  smaller or difference is odd
   aggregate = 0
   step = 0
   while (aggregate < target or (aggregate - target) %
                 2 != 0) :
     step = step + 1
     aggregate = aggregate + step

   return step


target = 1000000000
print(reachNumber(target))
```

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