Exercises Text files

Exercise 1

For this exercise you use the file *first_names.txt*.

a) Write a program that prints all first names **without** using a List.
b) Complete your program so that you print at the end:

```
There are 353 first names in the file.
```

c) Customize your program so that you only print the first names that contain a letter z. You'll get this result:

```
Renzo
Ziggy
Lorenz
There are 353 first names in the file.
3 of which contain a letter z.
```

Exercise 2

Use the file *first names.txt* again.

Read the complete file and put all first names in a **List**. Print this list in reverse order.

```
Ruben
Tijl
Bjorn
Michiel
Vincent
Yannick
Jori
Lienert
Bart
Matthias
Gianni
Koen
```

…

```
Maarten
Bram
Kevin
Peter
Bart
Tom
Adriaan
Pascal
Dries
Lore
```

Exercise 3

Use the file *first_names.txt* again.

Read the complete file and put all the first names in a List. Print the names 10 by 10.

Lore	Dries	Pascal	Adriaan	Tom	Bart	Peter	Kevin	Bram	Maarten
Toon	Roel	Jeroen	Matti	Stef	Renzo	Dimitri	Kim	Wesley	Jorn
Cedric	Toon	Bob	Michiel	Pros	Mathijs	Andy	Yves	Jamie	Wouter
Timmy	Steven	Ivo	Michelle	Kyron	Bart	Reggie	Sam	Mitch	Kenny
Jurgen	Sebastiaan	Nico	Ward	Jef	Sieuwe	Frank	Gert	Jo	Pieter
Pieter	Joeri	Hannes	Diederick	Johan	Koen	Jef	Stefaan	Piet	Yves
Niels	Mohamed	Wim	Pieter-Jan	Bram	Frederik	Jitse	Christof	Sim	Jan
Jeroen	Jori	Sander	Yenthe	Bart	Mattias	Sascha	Brent	Kyanni	Tom
Karel	Rens	Eline	Lienert	Sam	Lukas	Rob	Prinsen	Neel	Robin
Eric	Yannick	Arne	Koen	Lennert	Kim	Koen	Tomas	Niels	Yves
Ramses	Stanley	Jens	Justin	Lotte	Petar	Joris	Cedric	Thomas	Selina
Geert	Vince	Albin	Nick	Robbe	Jochen	Anthony	Tijl	Bart	Carl
Ward	Jeff	Kevin	Pieter	Elien	Dieter	Karlos	Glenn	Andy	Wendy
Frank	Rob	Stef	Evans	Sebastiaan	Sander	Koen	Robin	Bart	Hans
Yorkim	Wanne	Angelo	Brecht	Thijs	Wouter	Anke	Andries	Guilian	Sare
Vincent	Nick	Thomas	Michiel	Yonick	Maarten	Danny	Wouter	Kim	Dieter
Willem	Niels	Tjebbe	Steffie	Johan	Gerard	Dieter	Niels	Ken	Timothy
Lieven	Jef	Joren	Carl	Robin	Stef	Yoeri	Max	Piet	Yves
Christophe	Mohamed	Daan	Jorn	Kevin	Kyron	Vincent	Jeroen	Carl	Jasper
Stef	Laurens	Cedric	John	Tom	Ben	Lieven	Alexandre	Jason	Wesley
Wouter	Smets	Stef	Pieter	Bob	Steffie	Kris	Ken	Hannes	Stanley
Rik	Jeroen	Robin	Nathan	Ben	Jens	Steffen	Glenn	Dieter	Stijn
Cedric	Ivo	Filip	Ziggy	Jasper	Quinten	Thomas	Bart	Jens	Annick
Jelle	Sascha	Alexander	Bruno	Yoeri	Britt	Ben	Stijn	Philip	Tom
Erwin	Jonas	Arne	Kevin	Yonick	Evans	Rens	Jamie	Danny	Michiel
Arne	Evert	Tom	Jonas	Rob	Kevin	toon	Frank	Jonas	Rob
Jordy	Veerle	Dries	Joeri	Dries	Kevin	Jens	Michiel	Jens	Rob
Jorn	Willem	Pieter	Arne	Kevin	Maarten	Jan	Bart	Dries	Sarah
Maxim	Gert Jan	Maikel	Jens	Elien	Jo	Gert	Lorenz	Dieter	Nick
Frederik	Thomas	Bart	Matti	Kris	Sven	Jonas	Riet	Stijn	Karlos
Loes	Tom	Bjorn	Lotte	Bart	Wout	Tim	Reggie	Stefan	Stefan
Ben	Vincent	Remco	Inne	Tom	Yannick	Jo	Elmer	Vincent	Kevin
Wouter	Yves	Mathias	Tjebbe	Tristan	Robbe	Anthony	Gianni	Sim	Eric
Toon	Tim	Leen	Koen	Gerard	Mats	Henry	Francis	Bjorn	Alexandra
Freek	Koen	Gianni	Matthias	Bart	Lienert	Jori	Yannick	Vincent	Michiel
Bjorn	Tijl	Ruben							

Tip: the *ljust(number)* method will left align the string, using a space as the fill character. By setting this number to 13, for example, you get 10 nicely aligned columns.

Exercise 4

For this exercise you use the file *irish_song.txt*.

Write a program that searches for the shortest line in the song:

```
The shortest line has 27 characters
Her ghost wheels her barrow
```

Exercise 5

For this exercise you use the file *books.txt*.

The odd lines contain the titles of books, the even lines the corresponding author data. You may assume that the file contains an even number of lines.

Write a program that prints the contents of the file as follows:

```
1. Don Quichote -> Miguel de Cervantes
2. Things Fall Apart -> Chinua Achebe
3. In Search of Lost Time -> Marcel Proust
4. Ulysses -> James Joyce
5. The Great Gatsby -> F. Scott Fitzgerald
6. One Hundred Years of Solitude -> Gabriel Garcia Marquez
7. Moby Dick -> Herman Melville
8. War and Peace -> Leo Tolstoy
9. Hamlet -> William Shakespeare
10. The Catcher in the Rye -> J. D. Salinger
```

Exercise 6

For this exercise you use the files *wish1.txt, wish2.txt, wish3.txt*... *wish10.txt*.

Write a program that randomly determines which file will be printed. The printout can be this one, for example. Watch the title:

```
Wish 7

This festive season is so much more
than Christmas parties and gift giving.
May your Christmas be filled with the true miracles
and meaning of this beautiful time.
```

Exercise 7

For this exercise you use the file *playlist.txt.*

Write a program that displays the playlist in this way. Pay attention to the details!

```
Playlist
11:03    RED HOT CHILI PEPPERS (snow)
11:09    CALUM SCOTT (dancing on my own)
11:14    SHAKIRA (loca)
11:17    DRAKE (too good)
11:21    BACKSTREET BOYS (get down)
11:27    DUA LIPA (blow your mind)
11:30    DOTAN (hungry)
11:33    MIKE PERRY (the ocean)
11:37    SISTER SLEDGE (lost in music)
11:41    TOM DICE (hey there sister)
11:44    DESTINY'S CHILD (independent woman)
11:48    RAG'N'BONE MAN (human)
11:51    DON OMAR AND LUCENZO (danza kuduro)
11:54    LOST FREQUENCIES (beautiful life)
11:57    RUPERT HOLMES (escape)
12:01    NEWS (information)
12:03    STRUMBELLAS (spirits)
12:07    STROMAE (ta fête)
12:10    BASTILLE (send them off)
12:14    PUSSYCAT DOLLS (don't cha)
12:20    CHAINSMOKERS (closer)
12:26    DE LA SOUL (me myself and i)
12:29    MATOMA (false alarm)
12:33    MILK INC (storm)
12:36    NIALL HORAN (this town)
12:40    CALVIN HARRIS (blame)
12:43    ARIANA GRANDE (side to side)
12:47    TINA TURNER (we don't need another hero)
12:51    NATHANIEL RATELIFF (i need never get old)
12:55    NENA & KIM WILDE (anyplace anywhere anytime)
12:59    ACE OF BASE (the sign)
```

Exercise 8

You have an alphabetically sorted *contacts.csv* file with the following information for each contact: surname; first name; e-mail address; gender.

Write a program to create the following list. Note: the list is alphabetical by first name

```
5 girls:
     Annick Mannaerts
     Chris Raes
     Greet Peeters
     Julie Jacobs
     Riet Tyskens
43 boys:
     Bart Meyvis
     Ben Lambaerts
     Bert Lievens
     Brian Onbelet
     Dave Michilsen
     Diedenik Eskens
```

Exercise 9

For this exercise you use the file *weather_2018 08.csv*.

Write a program that prints the highest temperature reached during that period.

```
The highest temperature in this period = 35.92 °C
```

Exercise 10

For this exercise you use one of your own programs, for example *age_father_son.py*.

Write a program that reads this file and creates an output file that is a copy but where a line number (provide space for a 4-digit number) has been added at the front.

This input file:

```
age_son = int(input('How old are you: '))
age_father = int(input('How old is your father: '))
counter = 0

while age_son * 2 < age_father:
    age_son += 1
    age_father += 1
    counter += 1

if counter == 0:
    print('The situation is no longer possible for your ages')
else:
    print('Within', counter, 'years your father will have twice your age')
    print('Your father will be', age_father, 'and you will be', age_son)
```

is then copied to this txt-file:

```
   1 age_son = int(input('How old are you: '))
   2 age_father = int(input('How old is your father: '))
   3 counter = 0
   4
   5 while age_son * 2 < age_father:
   6     age_son += 1
   7     age_father += 1
   8     counter += 1
   9
  10 if counter == 0:
  11     print('The situation is no longer possible for your ages')
  12 else:
  13     print('Within', counter, 'years your father will have twice your age')
  14     print('Your father will be', age_father, 'and you will be', age_son)
```

Exercise 11

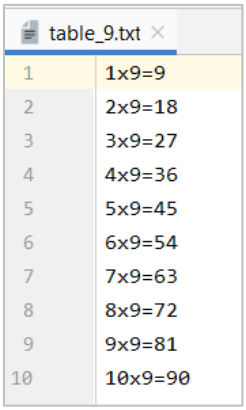
Write a program that cancels the numbering of the previous exercise. Use the text-file with the numbered lines as input and create a py-file without numbering.

Exercise 12

Write a program that generates a random number between 1 and 10 and then places the multiplication table of that number line by line in a file.

The name of the file must be *table_ x.txt* (replacing x with the random number).

For example: the random number is 9.



Exercise 13

For this exercise you use *hamlet.txt.*

a) Write a program to create a new text file *hamlet2.txt* in which there is just 1 space after each punctuation mark (comma or dot or ...), so even if there would be more spaces in the input file.

b) Write a program that reads the content of *hamlet2.txt* line by line (so do not use a list) and writes them into a new file *hamlet3.txt* but removes all vowels. Show on the screen how many characters you have read and how many characters you have written.

Write a function ***remove_vowels*** that removes all vowels from a string and returns the 'cleared' string.

```
The input file contains 1526 characters
The output file contains: 1097 characters
```

hamlet3.txt

```
T b, r nt t b, tht s th qstn:
Whthr 'ts nblr n th mnd t sffr
Th slngs nd rrws f trgs frtn
r t tk rms gnst  s f trbls,
nd by ppsng nd thm. T d, t slp,
N mr; nd by  slp t sy w nd
Th hrtch, nd th thsnd ntrl shcks
Tht flsh s hr t. 'Ts  cnsmmtn
Dvtly t b wsh'd. T d, t slp.
T slp, prchnc t drm: y, thr's th rb!
Fr n tht slp f dth wht drms my cm
Whn w hv shffld ff ths mrtl cl, 1760
Mst gv s ps. Thr's th rspct
Tht mks clmty f s lng lf.
Fr wh wld br th whps nd scrns f tm,
Th' pprssr's wrng, th prd mn's cntmly,
Th pngs f dsps'd lv, th lw's dly,
Th nslnc f ffc, nd th sprns
Tht ptnt mrt f th' nwrthy tks,
Whn h hmslf mght hs qts mk
Wth  br bdkn? Wh wld ths frdls br,
T grnt nd swt ndr  wry lf,
Bt tht th drd f smthng ftr dth-
Th ndscvr'd cntry, frm whs brn
N trvllr rtrns, pzzls th wll,
nd mks s rthr br ths lls w hv
Thn fly t thrs tht w knw nt f?
Ths cnscnc ds mk cwrds f s ll,
nd ths th ntv h f rsltn
s sckld 'r wth th pl cst f thght,
nd ntrprss f grt pth nd mmnt
Wth ths rgrd thr crrnts trn wry
nd ls th nm f ctn. Sft y nw!
Th fr phl! Nymph, n thy rsns
B ll my sns rmmb'rd.
```