

1. Resuelve los siguientes ejercicios utilizando el mapa definido a continuación.

. Resuelve los siguientes ejercicios utilizando el mapa definido a continuación.

a) Crea un mapa que contenga los datos del archivo paises.csv en el año 2013 Clave: El nombre del país Valor: La expectativa de vida

```
In [6]: import csv
        from mapas import mapa

        def leer():
            file=open('países.csv')
            lector=csv.reader(file)
            return lector

        lista2013=[x for x in leer() if x[2]=='2013']
        #print(lista2013)
        mapa2013=mapa()

        for elem in lista2013:
            pais=str(elem[0])
            expect=float(elem[1])
            mapa2013[pais]=expect
            #mapa2013[0]=elem[0]
            #mapa2013[1]=elem[1]
            g = (str("%.3f"%mapa2013[pais]))
            print(mapa2013.getKey(pais) + "= \t \t \t " + g)
```

Canada=	81.238	
Sao Tome and Principe=		66.135
Lao PDR=	67.806	
Arab World=	69.950	
Latin America & Caribbean (all income levels)=		74.639
Cambodia=	71.409	
Ethiopia=	62.966	
Aruba=	75.207	
Sri Lanka=	74.068	
Swaziland=	48.851	
South Asia=	66.645	
Argentina=	76.013	
Bolivia=	66.927	
Bahamas, The=	74.914	
Burkina Faso=	55.862	
Bahrain=	76.536	
Saudi Arabia=	75.497	
Middle East & North Africa (all income levels)=		72.
187		
Guatemala=	71.664	
Guinea=	55.845	
World=	70.779	
St. Lucia=	74.674	
Congo, Rep.=	58.297	
Spain=	82.378	
Liberia=	60.206	
Maldives=	77.574	
East Asia & Pacific (all income levels)=		74.733
Oman=	76.591	
Tanzania=	60.846	
Cabo Verde=	74.544	
Gabon=	63.074	
European Union=		80.544
Jamaica=	73.282	
Albania=	77.350	
United Arab Emirates=		76.958
Guam=	78.619	
India=	66.211	
Madagascar=	64.249	
Lesotho=	48.836	
OECD members=	79.955	
Pacific island small states=		69.683
Turkey=	74.862	
Virgin Islands (U.S.)=		79.473
Venezuela, RB=	74.488	
Bangladesh=	70.295	
Solomon Islands=		67.507
Lebanon=	79.846	
Mongolia=	67.339	
France=	82.566	
Syrian Arab Republic=		74.711
Rwanda=	63.493	
Somalia=	54.691	
Peru=	74.516	
Vanuatu=	71.411	
Cote d'Ivoire=	50.402	
Benin=	59.119	

Other small states=		59.535	
Cuba=	79.067		
Cameroon=		54.588	
Low & middle income=		68.853	
Togo=	56.150		
China=	75.200		
Dominican Republic=		73.233	
Germany=		80.893	
Ghana=	60.947		
Tonga=	72.489		
Indonesia=		70.607	
Latin America & Caribbean (developing only)=			74.462
Colombia=		73.777	
Libya=	75.176		
Finland=		80.627	
Central African Republic=			49.475
North America=		78.990	
Vietnam=		75.607	
Kenya=	61.083		
Korea, Dem. Rep.=		69.501	
Bulgaria=		74.315	
Mauritius=		73.566	
Romania=		74.563	
Angola=		51.464	
Central Europe and the Baltics=			76.046
Egypt, Arab Rep.=		70.907	
South Africa=		56.098	
St. Vincent and the Grenadines=			72.401
Fiji=	69.745		
Caribbean small states=			71.799
Brunei Darussalam=		78.373	
Middle income=		70.076	
Austria=		80.937	
High income: OECD=		80.685	
Mozambique=		49.836	
Uganda=		58.648	
Japan=	83.096		
Niger=	57.966		
United States=		78.741	
Afghanistan=		60.509	
Kuwait=		74.359	
Panama=		77.368	
Mali=	54.604		
Costa Rica=		79.705	
Euro area=		81.614	
Ireland=		80.895	
Pakistan=		66.436	
Nigeria=		52.109	
Lower middle income=		66.209	
Ecuador=		76.193	
Australia=		82.095	
Algeria=		70.882	
Chile=	79.573		
Puerto Rico=		78.536	
Belize=		73.699	
Fragile and conflict affected situations=			59.959
Sierra Leone=		45.329	

East Asia & Pacific (developing only)=		73.822
Denmark=	80.051	
Philippines=	68.554	
Portugal=	80.373	
Morocco=	70.643	
Namibia=	63.881	
French Polynesia=		76.129
Guinea-Bissau=	54.034	
Kiribati=	68.532	
Switzerland=	82.698	
Grenada=	72.610	
Chad=	50.701	
Uruguay=	76.908	
Equatorial Guinea=		52.613
Korea, Rep.=	81.368	
Djibouti=	61.304	
Antigua and Barbuda=		75.665
Low income=	61.619	
High income=	79.295	
Burundi=	53.629	
Least developed countries: UN classification=		61.125
Cyprus=	79.637	
Barbados=	75.132	
Qatar=	78.454	
Italy=	82.937	
Sudan=	61.864	
Sub-Saharan Africa (developing only)=		56.442
Singapore=	82.144	
Malta=	80.746	
Netherlands=	81.105	
Suriname=	70.811	
Iran, Islamic Rep.=		73.763
Israel=	81.705	
Malaysia=	74.842	
Iceland=	82.917	
Zambia=	57.023	
Sub-Saharan Africa (all income levels)=		56.439
Senegal=	63.202	
Papua New Guinea=		62.299
Malawi=	54.724	
Zimbabwe=	58.046	
Jordan=	73.747	
Poland=	76.798	
Mauritania=	61.351	
Small states=	63.203	
New Caledonia=	76.253	
Trinidad and Tobago=		69.817
Hungary=	75.063	
Honduras=	73.493	
Myanmar=	64.932	
Mexico=	77.135	
Tunisia=	75.100	
Nicaragua=	74.465	
Congo, Dem. Rep.=		49.623
Comoros=	60.644	
United Kingdom=		81.500
Gambia, The=	58.607	

High income: nonOECD=	73.443
Greece=	80.634
Paraguay=	72.194
Botswana=	46.991
Heavily indebted poor countries (HIPC)=	58.241

b) Obtén y muestra la expectativa de vida en Mexico, Guatemala, Belize, El Salvador y Nicaragua.

```
In [33]: mapaAll=mapa()
listaAll=[x for x in leer()]

for elem in listaAll:
    pais=str(elem[0])
    expect=float(elem[1])
    mapaAll[pais]=expect

print('México: ', "%.3f"%mapaAll['Mexico'])
print('Guatemala: ', "%.3f"%mapaAll['Guatemala'])
print('Belize: ', "%.3f"%mapaAll['Belize'])
print('El Salvador: ', "%.3f"%mapaAll['El Salvador'])
print('Nicaragua: ', "%.3f"%mapaAll['Nicaragua'])
```

México: 77.135
 Guatemala: 71.664
 Belize: 73.699
 El Salvador: 67.502
 Nicaragua: 74.465

C) Encuentra la expectativa de vida para cada uno de los países anteriores.

```
In [34]: mapaAll=mapa()
listaAll=[x for x in leer()]

for elem in listaAll:
    pais=str(elem[0])
    expect=float(elem[1])
    mapaAll[pais]=expect

print('México: ', "%.3f"%mapaAll['Mexico'])
print('Guatemala: ', "%.3f"%mapaAll['Guatemala'])
print('Belize: ', "%.3f"%mapaAll['Belize'])
print('El Salvador: ', "%.3f"%mapaAll['El Salvador'])
print('Nicaragua: ', "%.3f"%mapaAll['Nicaragua'])
```

México: 77.135
 Guatemala: 71.664
 Belize: 73.699
 El Salvador: 67.502
 Nicaragua: 74.465

d) Obten la lista de todas las claves del mapa.

```
In [35]: listaAll=[x for x in leer()]

for elem in listaAll:
    pais=str(elem[0])
    print(mapaAll.getKey(pais))
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e) Filtra la lista anterior para mostrar sólo los países que empiezan con Ç”


```
In [39]: listaAll=[x for x in leer()]

for elem in listaAll:

    chara = elem[0]
    cont=0

    if elem[0]!=pais:
        if chara[0] == 'C':
            #if cont==0:
                pais = str(elem[0])
                print(mapaAll.getKey(pais))
```

Canada
Cambodia
Congo, Rep.
Cabo Verde
Cote d'Ivoire
Cuba
Cameroon
China
Colombia
Central African Republic
Central Europe and the Baltics
Caribbean small states
Costa Rica
Chile
Chad
Cyprus
Congo, Dem. Rep.
Comoros

f) Calcula el promedio de expectativa de vida para todos los paises que empiezan con C.

```
In [45]: listaAll=[x for x in leer()]

suma=0
prom=0
países=0
for elem in listaAll:
    chara = elem[0]
    cont=0

    if elem[0]!=país:
        if chara[0] == 'C':
            #if cont==0:
                país = str(elem[0])
                expect=float(elem[1])
                mapaAll[país]=expect
                suma = suma + expect
                países=países+1

prom=(suma / países)
g= str("%.3f"%prom)
print("Promedio de expect de países con 'C' : " + g)
```

Promedio de expect de países con 'C' : 59.084

2. Resuelve los ejercicios utilizando el mapa definido a continuación

Feeling of Power Isaac Asimov Jehan Shuman was used to dealing with the men in authority on long-embattled earth. He was only a civilian but he originated programming patterns that resulted in self-directing war computers of the highest sort. Generals, consequently listened to him. Heads of congressional committees too. There was one of each in the special lounge of New Pentagon. General Weider was space-burned and had a small mouth puckered almost into a cipher. He smoked Denebian tobacco with the air of one whose patriotism was so notorious, he could be allowed such liberties. Shuman, tall, distinguished, and Programmer-first-class, faced them fearlessly. He said, "This, gentlemen, is Myron Aub." 1 "The one with the unusual gift that you discovered quite by accident," said Congressman Brant placidly. "Ah." He inspected the little man with the egg-bald head with amiable curiosity. The little man, in return, twisted the fingers of his hands anxiously. He had never been near such great men before. He was only an aging low-grade technician who had long ago failed all tests designed to smoke out the gifted ones among mankind and had settled into the rut of unskilled labor. There was just this hobby of his that the great Programmer had found out about and was now making such a frightening fuss over. General Weider said, "I find this atmosphere of mystery childish." "You won't in a moment," said Shuman. "This is not something we can leak to the firstcomer. Aub!" There was something imperative about his manner of biting off that one-syllable name, but then he was a great Programmer speaking to a mere technician. "Aub! How much is nine times seven?" Aub hesitated a moment. His pale eyes glimmered with a feeble anxiety. "Sixty-three," he said. Congressman Brant lifted his eyebrows. "Is that right?" "Check it for yourself, Congressman." The congressman took out his pocket computer, nudged the milled edges twice, looked at its face as it lay there in the palm of his hand, and put it back. He said, "Is this the gift you brought us here to demonstrate. An illusionist?" "More than that, sir. Aub has memorized a few operations and with them he computes on paper." "A paper computer?" said the general. He looked pained.

a) Crea un mapa, analizando el texto al inicio de este ejercicio, que tenga como valores: Clave: Una letra minúscula Valor: Las veces que aparece esa letra, ya sea mayúscula o minúscula en el texto

```
In [28]: def leers():
        file=open('txt.txt')
        lector=file.read().lower()
        return lector

        listaAll=[x for x in leers()]

        mapaTemp=mapa()
        letras='abcdefghijklmnopqrstuvwxyz'

        listText=[x for x in leers()]
        listLetras=[x for x in letras]
        listCont=[x for x in range(0,27)]

        for x in listCont:
            listCont[x]=0

        i=0
        for letra in letras:
            for elem in listText:
                if letra ==elem:
                    listCont[i]=listCont[i]+1
            i =i+1

        i=0
        for elem in listLetras:
            times= int (listCont[i])
            letras=str(elem)
            mapaTemp[letras]=times
            print("La letra: {0} \t se repite: {1} veces.".format(mapaTemp.getKey(letr
as),str((mapaTemp[letras]))))
            i=i+1
```

La letra: a	se repite: 152 veces.
La letra: b	se repite: 31 veces.
La letra: c	se repite: 47 veces.
La letra: d	se repite: 70 veces.
La letra: e	se repite: 221 veces.
La letra: f	se repite: 36 veces.
La letra: g	se repite: 52 veces.
La letra: h	se repite: 111 veces.
La letra: i	se repite: 133 veces.
La letra: j	se repite: 2 veces.
La letra: k	se repite: 14 veces.
La letra: l	se repite: 68 veces.
La letra: m	se repite: 65 veces.
La letra: n	se repite: 123 veces.
La letra: o	se repite: 119 veces.
La letra: p	se repite: 31 veces.
La letra: q	se repite: 2 veces.
La letra: r	se repite: 88 veces.
La letra: s	se repite: 125 veces.
La letra: t	se repite: 160 veces.
La letra: u	se repite: 55 veces.
La letra: v	se repite: 7 veces.
La letra: w	se repite: 34 veces.
La letra: x	se repite: 3 veces.
La letra: y	se repite: 23 veces.
La letra: z	se repite: 1 veces.

b) Imprime cuántas vocales hay en el texto

```
In [29]: i=0

for elem in listText:
    if elem == 'a' or elem == 'e' or elem == 'i' or elem == 'o' or elem == 'u':
        i=i+1

print("Número de vocales en el texto: " + str(i))
```

Número de vocales en el texto: 680

c) Imprime cada pareja del mapa, en forma clave:valor

```
In [31]: i = 0

for elem in listLetras:
    letras = str(elem)
    print("Clave: {0} valor:
{1}".format(mapaTemp.getKey(letras),str(mapaTemp[letras])))

Clave: a valor: 152
Clave: b valor: 31
Clave: c valor: 47
Clave: d valor: 70
Clave: e valor: 221
Clave: f valor: 36
Clave: g valor: 52
Clave: h valor: 111
Clave: i valor: 133
Clave: j valor: 2
Clave: k valor: 14
Clave: l valor: 68
Clave: m valor: 65
Clave: n valor: 123
Clave: o valor: 119
Clave: p valor: 31
Clave: q valor: 2
Clave: r valor: 88
Clave: s valor: 125
Clave: t valor: 160
Clave: u valor: 55
Clave: v valor: 7
Clave: w valor: 34
Clave: x valor: 3
Clave: y valor: 23
Clave: z valor: 1
```

d) Imprime una lista que contenga, para cada letra de la a a la z, si está o no está en el texto. Ejemplo: a: sí

```
In [33]: i = 0

for elem in listLetras:
    letras = str(elem)
    if mapaTemp[letras]!=0:
        print(mapaTemp.getKey(letras) + ":Sí")
    else:
        print(mapaTemp.getKey(letras) + ":No")
    i=i+1
```

```
a:Sí
b:Sí
c:Sí
d:Sí
e:Sí
f:Sí
g:Sí
h:Sí
i:Sí
j:Sí
k:Sí
l:Sí
m:Sí
n:Sí
o:Sí
p:Sí
q:Sí
r:Sí
s:Sí
t:Sí
u:Sí
v:Sí
w:Sí
x:Sí
y:Sí
z:Sí
```

In []: