



ΤΑΞΗ: 3^η ΤΑΞΗ ΕΠΑ.Λ.

ΜΑΘΗΜΑ: ΠΡΟΓΡΑΜΜΑΤΙΣΜΟΣ ΥΠΟΛΟΓΙΣΤΩΝ/
ΕΙΔΙΚΟΤΗΤΑΣ

Ημερομηνία: Σάββατο 20 Απριλίου 2019

Διάρκεια Εξέτασης: 3 ώρες

ΑΠΑΝΤΗΣΕΙΣ

ΘΕΜΑ Α

A1.

1. Λάθος
2. Λάθος
3. Σωστό
4. Λάθος
5. Σωστό

A2. `print(x + int(ys))`

A3.

for word in ON:

`print(word, word)`

A4.

BELLA

CIAO

**ΘΕΜΑ Β**

B1. ab ababab c ccc

B2.

```
def perfect_number(n):  
    sum = 0  
    for x in range(1, n):  
        if n % x == 0:  
            sum += x  
    return sum == n
```

B3.

```
acc1=BankAccount(1500)  
acc2=BankAccount(1000)  
print('To neo ypoloipo tou acc1 einai:',acc1.deposit(200))  
print('To neo ypoloipo tou acc1 einai:',acc1.withdraw(800))  
print('To neo ypoloipo tou acc2 einai:',acc2.deposit(250))  
print('To neo ypoloipo tou acc2 einai:',acc2.deposit(300))
```

ΘΕΜΑ Γ

```
first=True  
below_5_all=False  
cnt_30=0  
cnt=0  
city=raw_input('Dwse to onoma ths polhs:')  
while city!='TELOS':  
    S=0  
    below_5=True  
    for i in range (0,30):  
        th=input('Dwse thermokrasia gia thn: '+str(i+1)+' mera tou mhna')  
        if i==0:  
            max_c=th  
            min_c=th  
        else:  
            if th>max_c:  
                max_c=th  
            if th<min_c:  
                min_c=th  
        S+=th
```

**ΕΠΑΝΑΛΗΠΤΙΚΑ ΘΕΜΑΤΑ 2019**
Β' ΦΑΣΗ**E_3.ΠΕΛ3Ε(α)**

```
if th>=5:
    below_5=False
if below_5==True:
    below_5_all=True
m_o=S/30
if first==True:
    max=m_o
    max_on=city
else:
    if m_o>max:
        max=m_o
        max_on=city
if m_o>30:
    cnt_30+=1
cnt+=1
print 'H diafora ths mikroterhs apo th megisti thermokrasia
einai:'+str(max_c-min_c)
first=False
city=raw_input('Dwse to onoma ths epomenhs polhs')
print 'To onoma ths polhs me th megisth thermokrasia einai:'+max_on
if below_5_all==True:
    print 'Yparxei polh me oles tis thermokrasies katw tou 5'
else:
    print 'Kamia polh den eixe oles tis thermokrasies katw tou 5'
perc_30=(cnt_30/cnt)*100
print 'To pososto twn polewn me mesh thermokrasia panw apo 30:'+str(perc_30)
```

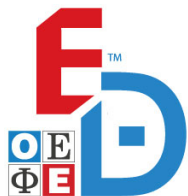
ΘΕΜΑ Δ

```
ON = []
TEL = []
fin = open("phonebook.txt")
i = 0
for line in fin:
    i = i + 1
    result=''
    for char in line:
        if char!='\n':
            result+=char
    if i % 2 == 1 :
        ON.append(result)
    else:
        TEL.append(result)
fin.close()

choice=input('Dwse thn epilogh sou: 1 Eisagwh 2 Anazthsh 3 Exodos')
while choice!=3:
    if choice==1:
        epwnymo=raw_input('Dwse to epwnymo ths neas eggrafhs')
        phone=raw_input('Dwse to thlefwno ths neas eggrafhs')
        ON.append(epwnymo)
        TEL.append(phone)
        n = len(ON)
        for i in range(n-1):
            for j in range(n-1,i,-1):
                if ON[j-1] > ON[j]:
                    temp = ON[j-1]
                    ON[j-1] = ON[j]
                    ON[j] = temp

                temp2 = TEL[j-1]
                TEL[j-1] = TEL[j]
                TEL[j] = temp2
        fin=open("phonebook.txt","w")
        for i in range (0,n):
            fin.write(ON[i]+'\\n')
            fin.write(TEL[i]+'\\n')

        fin.close()
    elif choice==2:
        epwnymo=raw_input("Dwse to epwnymo pou anazhtas")
```

**ΕΠΑΝΑΛΗΠΤΙΚΑ ΘΕΜΑΤΑ 2019**
Β' ΦΑΣΗ**E_3.ΠΕΛ3Ε(α)**

```
first = 0
last=len(ON)-1
found = False
while first <= last and not found :
    mid = ( first + last ) / 2
    print ON[mid]
    if ON[ mid ] == epwnymo :
        found = True
    elif ON[ mid ] < epwnymo :
        first = mid + 1
    else :
        last=mid-1
if found==True:
    print 'To thlefwno pou anazhtate einai to:' +str(TEL[mid])
else:
    print 'Den vrethhke to onoma pou anazhtate'
choice=input('Dwse thn epilogh sou: 1 Eisagwgh 2 Anazhtsh 3 Exodos')
```

ΣΥΝΕΡΓΑΣΙΑ
ΑΡΙΔΑΙΑ