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# reponse.py
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001 | from math import *
002 | n=0
003 | for i in range(36):
004 |     n+=i**4
005 | # print(n)
006 |
007 | S=1
008 | n=1
009 | while S<5:
010 |     n+=1
011 |     S=S+1/n
012 | print(n)
013 |
014 | S=0
015 | for k in range(17,101):
016 |     for j in range(145,258):
017 |         S=S+1/(k+j)
018 | print(S)
019 |
020 | def is_prime(n):
021 |     for i in range(2,n):
022 |         if n%i==0:
023 |             return(False)
024 |     return(True)
025 |
026 | def porte5(n,m):
027 |     s=0
028 |     for i in range(n,m+1):
029 |         if is_prime(i):
030 |             s=s+i
031 |     print(s)
032 |
033 | porte5(20,198)
034 |
035 |
036 | def porte6(n):
037 |     k=n
038 |     while is_prime(k)==False:
039 |         k=k+1
040 |     print(k)
041 | porte6(4776)
042 |
043 |
044 | def porte7(n):
045 |     c=1
046 |     p=2
047 |     while c<n:
048 |         p=p+1
049 |         if is_prime(p):
050 |             c=c+1
051 |     print(p)
052 | porte7(120)
053 |
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054 |
055 | def somme(n):
056 |     s=0
057 |     for i in range(2,n):
058 |         if is_prime(i):
059 |             s=s+1/i
060 |     print(s)
061 | print('test')
062 | somme(281)
063 |
064 |
065 |
066 | def porte8(n):
067 |     c=1
068 |     p=2
069 |     s=0
070 |     while c<n:
071 |         p=p+1
072 |         if is_prime(p):
073 |             c=c+1
074 |             s=s+1/p
075 |     print(s)
076 | # porte8(175)
077 |
078 | def porte9():
079 |     n=0
080 |     p=1
081 |     s=0
082 |     while s< 2.447:
083 |
084 |         p=p+1
085 |         # print(p)
086 |         if is_prime(p):
087 |             # print(n,p,s)
088 |             n=n+1
089 |             s=s+1/p
090 |             print(p,n)
091 |     print('porte9', n)
092 | porte9()
093 |
094 | def f(x):
095 |     return(cos(x)/(1+x**2))
096 |
097 | def Riemann(n):
098 |     S=0
099 |     for i in range(n):
100 |         S=S+f(1+i/n)
101 |     print(S/n)
102 |
103 | def P(X):
104 |     return(X**3+2*X+1)
105 |
106 | def dichotomie(a,b,epsilon):
107 |     A=a
108 |     B=b

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109 |     while abs(B-A)>epsilon:
110 |         C=(B+A)/2
111 |         if P(C)*P(A)<0:
112 |             B=C
113 |         else:
114 |             A=C
115 |
116 |     print(C)
117 |
118 | dichotomie(1,-1,0.0001)
119 |
120 | X=[cos(n) for n in range(1,101)]
121 | Y=[cos(n) for n in range(1,101)]
122 | X.sort()
123 | max=X[-1]
124 | for i in range(len(Y)):
125 |     if max==Y[i]:
126 |         print(i)
127 |
128 | def syracuse(n):
129 |     c=0
130 |     while n!=1:
131 |
132 |         c+=1
133 |         if n%2==0:
134 |             n=n/2
135 |         else:
136 |             n=3*n+1
137 |     print(c)
138 | syracuse(2382)
139 | fichier='/Users/olivierglorieux/Documents/Site-Project/exercice
BCPST/grimoire.txt'
140 | f=open(fichier,'r')
141 | L=f.read().replace("\n",' ').split(' ')
142 |
143 | x=0
144 | for i in L[:356]:
145 |     x+=1
146 |     # print(x,i)
147 |
148 | # x=f.read()
149 | # print(x)
150 | # i=0
151 | # for lettre in x:
152 | #
153 | #     if lettre=='e':
154 | #
155 | #         i+=1
156 | # print(i/len(x))
157 |
158 | # print(L[356])
159 | # x=0
160 | # for mot in L:
161 | #     if mot=='ut':
162 | #         x=x+1

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```

163 | # print(x)
164 | #
165 |
166 |
167 | def question16():
168 |     fichier='/Users/olivierglorieux/Documents/Site-Project/
exercice BCPST/batt.csv'
169 |     f=open(fichier,'r',encoding='utf8')
170 |     L=f.readlines()
171 |     c=0
172 |     for battle in L[1:]:
173 |         date=battle.split(';')[0]
174 |
175 |         date=int(date)
176 |         if date>900:
177 |             c=c+1
178 |     print(c)
179 | # question16()
180 |
181 | def question17():
182 |     fichier='/Users/olivierglorieux/Documents/Site-Project/
exercice BCPST/batt.csv'
183 |     f=open(fichier,'r',encoding='utf8')
184 |     L=f.readlines()
185 |     list_of_all_date=[]
186 |     par_siecle=[0 for i in range(14)]
187 |     for battle in L[1:]:
188 |         date=int(battle.split(';')[0])
189 |         for i in range(14):
190 |             if date<i*100 and date>(i-1)*100:
191 |                 par_siecle[i]+=1
192 |     print(par_siecle)
193 |
194 |
195 | import string
196 |
197 | def question18():
198 |     alphabet=list(string.ascii_lowercase)
199 |     alphabet=[' ']+alphabet
200 |
201 |     str='bravo vous etes presque a la fin encore un peu d effort
et c est gagne le code de cette porte est mille deux cent trentre
quatre '
202 |     code=[]
203 |     for lettre in str:
204 |         x=alphabet.index(lettre)
205 |         if x:
206 |             code+= [x]
207 |         else:
208 |             code+= []
209 |     print(code)
210 |
211 |
212 |
213 | # question18()

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214|
215|
216|
217| def question19():
218|     alphabet=list(string.ascii_lowercase)
219|
220|
221|     str='magnifique tu as fini !! le code de cette derniere
porte est un ! ehehe tout ca pour ca !  bonnes vacances et bon
courage pour les revisions '
222|     code=''
223|     for lettre in str:
224|         if lettre in alphabet:
225|             x=alphabet.index(lettre)
226|             y=(x-10)%26
227|             code+=alphabet[y]
228|
229|         else:
230|             code=code+lettre
231|     print(code)
232|
233|
234| #
235| # question19()
236| #
237|
238|
```