programming2

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```
def dbltable(x):

    for i in [1..x,.1]:
        print'----------------------------------------'
        print '|',i,'|',log(i),'|'
```

```
dbltable(5)
```

```
----------------------------------------
| 1.00000000000000 | 0.000000000000000 |
----------------------------------------
| 2.00000000000000 | 0.693147180559945 |
----------------------------------------
| 3.00000000000000 | 1.09861228866811 |
----------------------------------------
| 4.00000000000000 | 1.38629436111989 |
----------------------------------------
| 5.00000000000000 | 1.60943791243410 |
----------------------------------------
| 0.100000000000000 | -2.30258509299405 |
```

```
forget()
#float(i)
html.table([(i,log(float(i))) for i in (1..10)],header=["$x$","$log(x)$"])
```

x	$log(x)$
1	0.0
2	0.69314718056
3	1.09861228867
4	1.38629436112
5	1.60943791243
6	1.79175946923
7	1.94591014906
8	2.07944154168
9	2.19722457734
10	2.30258509299

```
def dbltable(x):

    for i in [1..10,.1]:
        print'----------------------------------------'
        print '|',i,'|',log(i),'|'


dbltable(10)

html.table([(i,log(i)) for i in range(1,10),header=["$x$","$log(x)$"])

html.table([(i,log(i)) for i in range(1,10,)],header=["$x$","$log(x)$"])

for i in range(1,20,2):
   print i^2,'\t',i

html.table([(i^2,i) for i in range(1,20,2)],header=["$f(x)$","$x$"])
```

$f(x)$	x
1	1
9	3
25	5
49	7
81	9
121	11
169	13
225	15
289	17
361	19

```
def r(a,b,c):
    delta=b^2-4*a*c
    if delta<0:
        print "no root"
    elif delta==0:
          print "x=",-b/(2*a)
    else:
          print  "x1=",(-b+math.sqrt(delta))/(2*a),"x2=",(-b-math.sqrt(delta))/(2*a)
```

```
r(-1,2,3)
```

```
    x1= -1.0 x2= 3.0
```

```
def find(str,ch):
    index=0
    while index<len(str):
        if str[index]==ch:
            return index+1
        index+=1# index=index+1
    print "No character is math!"
```

```
find("this","o")
```

```
    No character is math!
```

```
def fibo(n):
    if n==1 or n==2:
        return 1
    else:
        a=1
        b=1
        c=1
        for i in [3..n]:
             a=b
             b=c
             c=a+b
        return c
```

```
a=fibo(1000)/fibo(999)
a.n()
```

```
    1.61803398874989
```

```
f(n)=fibo(1000)/fibo(n-1)
f.lim(n=oo)
```

```
    Traceback (click to the left of this block for traceback)
    ...
    TypeError: unable to simplify to float approximation
```

```
lim(n=oo,fib(n)/fib(n-1))
```

```
    Traceback (click to the left of this block for traceback)
    ...
    SyntaxError: non-keyword arg after keyword arg
```

```
fibo(20)
```

```
    WARNING: Output truncated!
    full output.txt


    Traceback (click to the left of this block for traceback)
    ...
    __SAGE__
    full output.txt
```

```
data=[{'First name':'Xli','Last name':'Klavi','age':25},{'First name':'Sasan','Last
name':'Nami','age':22},{'First name':'Parvin','Last name':'Amiri','age':25}]
```

```
data
```

```
    [{'First name': 'Xli', 'Last name': 'Klavi', 'age': 25},
     {'First name': 'Sasan', 'Last name': 'Nami', 'age': 22},
     {'First name': 'Parvin', 'Last name': 'Amiri', 'age': 25}]
```

```
#print(sorted(data))
print(sorted(data,key=lambda item :item['age']))
```

```
    [{'Last name': 'Nami', 'First name': 'Sasan', 'age': 22}, {'Last name':
    'Klavi', 'First name': 'Xli', 'age': 25}, {'Last name': 'Amiri', 'First
    name': 'Parvin', 'age': 25}]
```

```
for i in range(1,10,2):
    print i,'\t',i^2
```

```
    1       1
    3       9
    5       25
```

```
7       49
9       81
```