

第九回プログラミング言語 練習問題回答例

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練習問題①

```
a=[5,4,2,7,6]
```

```
min = a[ 0 ]
```

```
max = a[ 0 ]
```

```
for i in range(1,len(a)):
```

```
    if min > a[ i ]:
```

```
        min = a[ i ]
```

```
    if max < a[ i ]:
```

```
        max = a[ i ]
```

```
print( a )
```

```
print( " max -> " , max )
```

```
print( " min -> " , min )
```

```
>python 9-1.py
```

```
[5, 4, 2, 7, 6]
```

```
max -> 7
```

```
min  -> 2
```

練習問題②

配列の宣言方法

```
a=[0]*5  
b=[0]*5  
c=[0]*5
```

```
for i in range(len(a)):
```

```
    a[ i ] = ( i+1 )  
    b[ i ] = ( i+1 ) * ( i+1 )  
    c[ i ] = ( i+1 ) **3
```

```
print( a )  
print( b )  
print( c )
```

```
a=[]  
b=[]  
c=[]
```

```
for i in range(5):
```

```
    a.append( i+1 )  
    b.append( ( i+1 ) * ( i+1 ) )  
    c.append( ( i+1 ) **3 )
```

```
print( a )  
print( b )  
print( c )
```

```
> python 9-2.py  
[1, 2, 3, 4, 5]  
[1, 4, 9, 16, 25]  
[1, 8, 27, 64, 125]
```

練習問題③

```
a=[4,3,6,9,1]
b=[1,9,5,2,3]
x=[0]*len(a)
y= 0

for i in range(len(x)):
    x[ i ] = a[ i ] + b[ i ]
    y += a[ i ] * b[ i ]

print( a )
print( b )
print( x )
print( y )
```

```
>python 9-3.py
[4, 3, 6, 9, 1]
[1, 9, 5, 2, 3]
[5, 12, 11, 11, 4]
82
```

練習問題④

```
x=[]

i = 0
while True:
    n = input()
    if n == "q":
        break
    x.append( int( n ) )
    i += 1

print( x )
```

```
>python 9-4.py
4
5
6
7
12
q
[4, 5, 6, 7, 12]
```

練習問題⑤

```
x = [ 3 , 4 , 9 , 6 , 2 ]  
print( x )  
  
n=int(len(x)/2)  
for i in range(n):  
    work = x[i]  
    x[i] = x[len(x)-1-i]  
    x[len(x)-1-i] = work  
  
print( x )
```

```
>python 9-5.py  
[3, 4, 9, 6, 2]  
[2, 6, 9, 4, 3]
```

練習問題⑥

```
import random

a=[0]*20
for i in range(20):
    a[i] = random.randint(0,100)
print(a)

b=[0]*20
for i in range(19):
    if a[ i ] < a[ i+1 ]:
        b[ i ] = 1
```

```
max_count = 0
count = 1
for i in range(19):
    if b[i] == 0 and b[i+1] == 1:
        count+=1
    elif b[i] == 1 and b[i+1] == 1:
        count+=1
    elif b[i] == 1 and b[i+1] == 0:
        if max_count < count:
            max_count = count
        count = 1
    else:
        pass
print( "最長部分列の長さは" , max_count )
```

練習問題⑥

33<65<85<90

```
>python 9-6.py
```

```
[93, 70, 18, 65, 10, 46, 84, 50, 68, 31, 40, 86, 33, 65, 85, 90, 12, 9, 1, 95]
```

最長部分列の長さは 4

```
>python 9-6.py
```

```
[0, 89, 100, 13, 50, 67, 50, 59, 69, 5, 34, 59, 1, 2, 53, 17, 8, 35, 77, 12]
```

最長部分列の長さは 3