

Практическая работа 5

Задача 1

```
In [3]: N = int(input())
i = 1
while i**2 <= N:
    print(i**2)
    i += 1
```

```
9
1
4
9
```

Задача 2

```
In [3]: N = int(input())
i = 2
k = 0
while k == 0:
    if N%i == 0:
        k = 1
        print(i)
    else:
        i+=1
```

```
3
3
```

Задача 3

```
In [8]: N = int(input())
i = 1
while N >= i:
    print(i)
    i*=2
```

```
8
1
2
4
8
```

Задача 4

```
In [3]: N = int(input())
i=1
f=0
while N>=i:
    if N==i:
        print('YES')
        f=1
        i*=2
    else:
        i*=2
if f==0:
    print('NO')
```

3
NO

Задача 5

```
In [6]: N = int(input())
k = 0
p = 1
while p < N:
    p = p*2
    k += 1
print(k)
```

3
2

Задача 6

```
In [14]: X,Y=int(input()),int(input())
day=1
while X<Y:
    day+=1
    X*=1.1
print(day)
```

10
100
26

Задача 7

```
In [17]: N = int(input())
maxn=0
while N!=0:
    if N>maxn:
        maxn=N
    N = int(input())
print(maxn)
```

1
2
3
0
3

Задача 8

```
In [20]: n = int(input())
i=1
s=0
while i<=n:
    s+=(i**2)
    i+=1
print(s)
```

3
14

Задача 9

```
In [25]: N = int(input())
count=0
while N!=0:
    count+=1
    N = int(input())
print(count)
```

1
7
9
0
3

Задача 10

```
In [26]: N=int(input())
s=0
while N!=0:
    s+=N
    N=int(input())
print(s)
```

34
2345
2345
2345
2345
345
3
345
3
345
1
3
424
5
453
0
11341

Задача 11

```
In [30]: N=int(input())
s=0
count=0
while N!=0:
    s+=N
    count+=1
    N=int(input())
s=s/count
print(s)
```

```
34
2345
2345
2345
2345
345
3
345
3
345
1
3
424
5
453
0
756.0666666666667
```

Задача 12

```
In [32]: N=int(input())
count=0
while N!=0:
    if N%2==0:
        count+=1
    N=int(input())
print(count)
```

```
1
3
5
7
9
1
3
5
7
9
0
0
```

Задача 13

```
In [35]: N=int(input())
s=N
count=0
while N!=0:
    if N>s:
        count+=1
    s=N
    N=int(input())
print(count)
```

```
1
2
3
4
5
0
4
```

Задача 14

```
In [41]: max1=int(input())
el=int(input())
max2=el
while el!=0:
    if el>=max1:
        (max2,max1)=(max1,el)
    elif max2<el<=max1:
        max2=el
    el=int(input())
print(max2)
```

```
1
2
2
3
3
0
3
```

Задача 15

```
In [6]: el=int(input())
max1=el
count=0
while el!=0:
    if el==max1:
        count+=1
    if el>max1:
        max1=el
    el=int(input())
print(count)
```

```
1
7
9
0
1
```

Задача 16

```
In [9]: F1=1
        F2=1
        n=int(input())
        i=0
        while i<n-2:
            summ=F1+F2
            F1=F2
            F2=summ
            i+=1
        print(F2)
```

3
2

Задача 17

```
In [16]: F1=1
        F2=1
        A=int(input())
        i=2
        summ=F1+F2
        while summ<A:
            summ=F1+F2
            F1=F2
            F2=summ
            i+=1
        if summ==A:
            print(i)
        else:
            print('-1')
```

13
7

Задача 18

```
In [20]: A=int(input())
B=int(input())
while A!=B:
    if A//2>=B and A%2==0:
        print (':2')
        A//=2
    else:
        print ('-1')
        A-=1
```

```
1023
1
-1
:2
-1
:2
-1
:2
-1
:2
-1
:2
-1
:2
-1
:2
-1
:2
-1
:2
-1
:2
```

Задача 19

```
In [25]: N=int(input())
N2=0
while N>0:
    r=N%10
    N//=10
    N2*=10
    N2+=r
print(N2)
```

```
874
478
```

Задача 20

```
In [37]: K=int(input())
N=1
count=0
while N<=K:
    N2=0
    pr=N
    while pr>0:
        r=pr%10
        pr//=10
        N2*=10
        N2+=r
    if N==N2:
        count+=1
    N+=1
print(count)
```

10
9

Задача 21

```
In [46]: N=int(input())
prN=0
count=1
prcount=1
while N>=0:
    if N==prN:
        count+=1
    elif count>prcount:
        prcount=count
        count=1
    if N==0:
        break
    prN=N
    N=int(input())
print(prcount)
```

4
4
4
4
4
4
4
4
4
4
4
4
4
4
4
0
15

Задача 22


```
In [52]: N=int(input())
prN=0
countA=1
countB=1
i=0
while N>=0:
    if N>prN and (i==1 or i==3) and N!=0:
        countA+=1
        i=1
    elif N<prN and (i==2 or i==3) and N!=0:
        countA+=1
        i=2
    else:
        if countA>countB:
            countB=countA
        if N>prN:
            i=1
        elif N<prN:
            i=2
        else:
            i=3
        countA=1
    if N==0:
        break
    prN=N
    N=int(input())
print(countB)
```

```
4
4
4
4
4
4
4
4
4
4
4
4
4
4
4
4
4
4
0
1
```

Задача 23

```
In [63]: max1=0
max2=0
i=0
N1=1
N2=0
N3=0
l=999999
while N1!=0:
    i+=1
    N3=N2
    N2=N1
    N1=int(input())
    if i>2 and N2>N1 and N2>N3 and N1!=0:
        max2=max1
        max1=i
        if max1>0 and max2>0 and max1-max2<1:
            l=max1-max2
if l==999999:
    l=0
print(l)
```

```
1
2
1
2
1
0
2
```

Задача 24

```
In [68]: a=int(input())
b=int(input())
c=int(input())
p=(a+b+c)/2
s=(p*(p-a)*(p-b)*(p-c))
if s<0:
    s*=-1
print(s**.5)
```

```
5
12
13
30.0
```

In []: