ICPC Notebook

template

.python-version

```
pypy-3.11.13
```

hash.py

md5: 14abff

```python
# 使い方: uv run hash.py -> コピペ -> Ctrl + D
# コメント・空白・改行を無視して AST ベースで md5 ハッシュする
import ast, hashlib, sys

tree = ast.parse(sys.stdin.read())
dump = ast.dump(tree)
print(hashlib.md5(dump.encode()).hexdigest()[:6], end="")
```

template.py

md5: 61e08b

```python
import sys
input = sys.stdin.readline
sys.setrecursionlimit(1 << 20)

# your code here...
```

data_structure

DSU.py

md5: 01d3ae

```python
class DSU:
    def __init__(self, n):
        self.par = list(range(n))
    def find(self, x):
        while self.par[x] != x:
            self.par[x] = self.par[self.par[x]]
            x = self.par[x]
        return x
    def unite(self, x, y):
        self.par[self.find(x)] = self.find(y)
    def same(self, x, y):
        return self.find(x) == self.find(y)
```

math

modint

FPS

graph

graph/tree

flow

string

algorithm

geometry

memo

Primes.md

素数の個数

n	10^2	10^3	10^4	10^5	10^6	10^7	10^8	10^9	10^{10}
$\pi(n)$	25	168	1229	9592	78498	664579	5.76e+6	5.08e+7	4.55e+8

高度合成数

$\leq n$	10^3	10^4	10^5	10^6	10^7	10^8	10^9
x	840	7560	83160	720720	8648640	73513440	735134400
$d^0(x)$	32	64	128	240	448	768	1344

$\leq n$	10^{10}	10^{11}	10^{12}	10^{13}	10^{14}	10^{15}	10^{16}	10^{17}	10^{18}
$d^0(x)$	2304	4032	6720	10752	17280	26880	41472	64512	103680

素数階乗

n	2	3	5	7	11	13	17	19	23	29
$n\#$	2	6	30	210	2310	30030	510510	9.70e+6	2.23e+8	6.47e+9

階乗

$4!$	$5!$	$6!$	$7!$	$8!$	$9!$	$10!$	$11!$	$12!$	$13!$
24	120	720	5040	40320	362880	3.63e+6	3.99e+7	4.79e+8	6.23e+9