Project 4 Report

Muhib Khan

Run: **python .\src\prj4.py <difficulty i>**

input.txt

target.txt

16

17

```
PS C:\Users\muhib\OneDrive - University of Cincinnati\Desktop\Fall 2023\Data Security\pow_m14056283> python .\src\prj4.py 17
Solution Nonce: 55796
Solution: 55796
Valid Solution: 1
Runtime: 0.23552680015563965
```

```
prj4.py          ≡ solution.txt ×

data >  ≡ solution.txt
   1      55796
```
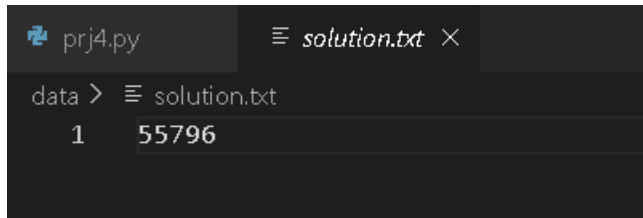
18

```
PS C:\Users\muhib\OneDrive - University of Cincinnati\Desktop\Fall 2023\Data Security\pow_m14056283> python .\src\prj4.py 18
Solution Nonce: 55796
Solution: 55796
Valid Solution: 1
```

```
prj4.py          ≡ solution.txt ×

data >  ≡ solution.txt
   1      55796
```
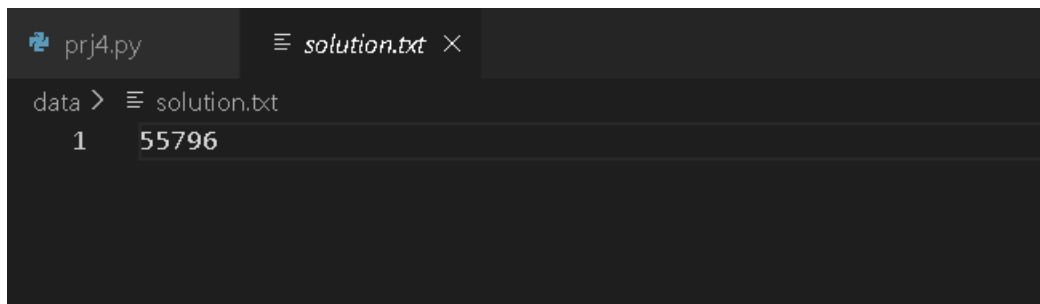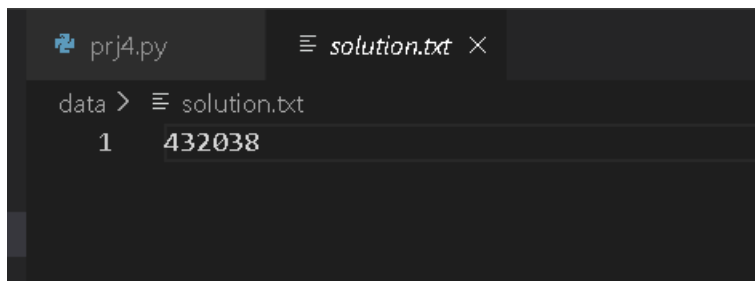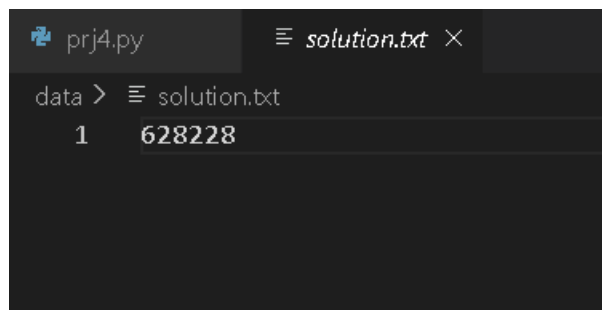
19

```
Runtime: 0.18850155005222050
PS C:\Users\muhib\OneDrive - University of Cincinnati\Desktop\Fall 2023\Data Security\pow_m14056283> python .\src\prj4.py 19
Solution Nonce: 432038
Solution: 432038
Valid Solution: 1
Runtime: 1.4462132453918457
```
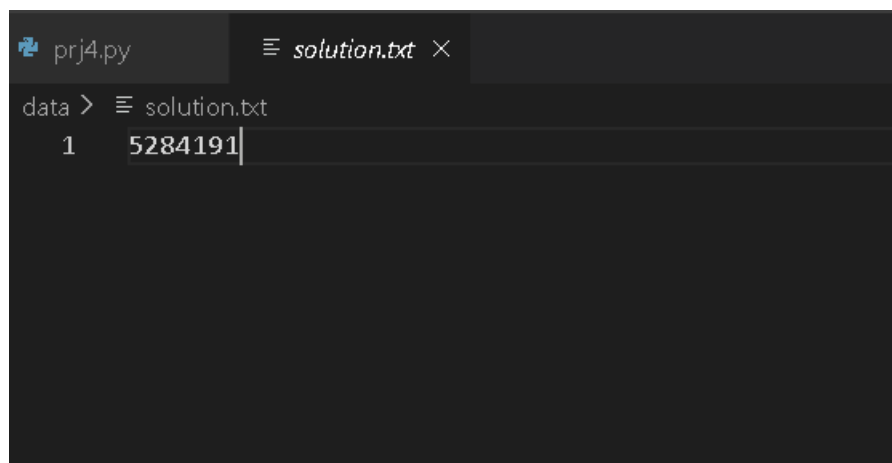
```
prj4.py          ≡ solution.txt ×

data >  ≡ solution.txt
   1      432038
```

20

```
PS C:\Users\muhib\OneDrive - University of Cincinnati\Desktop\Fall 2023\Data Security\pow_m14056283> python .\src\prj4.py 20
Solution Nonce: 628228
Solution: 628228
Valid Solution: 1
Runtime: 2.0758235454559326
```

```
prj4.py          ≡ solution.txt ✕

data > ≡ solution.txt
    1    628228
```

21

```
PS C:\Users\muhib\OneDrive - University of Cincinnati\Desktop\Fall 2023\Data Security\pow_m14056283> python .\src\prj4.py 21
Solution Nonce: 5284191
Solution: 5284191
Valid Solution: 1
Runtime: 17.054751873016357
```

```
prj4.py          ≡ solution.txt ✕

data > ≡ solution.txt
    1    5284191
```

22

```
PS C:\Users\muhib\OneDrive - University of Cincinnati\Desktop\Fall 2023\Data Security\pow_m14056283> python .\src\prj4.py 22
Solution Nonce: 7048796
Solution: 7048796
Valid Solution: 1
Runtime: 23.59480357170105
```

23

```
PS C:\Users\muhib\OneDrive - University of Cincinnati\Desktop\Fall 2023\Data Security\pow_m14056283> python .\src\prj4.py 23
Solution Nonce: 13890264
Solution: 13890264
Valid Solution: 1
Runtime: 43.72111988067627
```


24

```
PS C:\Users\muhib\OneDrive - University of Cincinnati\Desktop\Fall 2023\Data Security\pow_m14056283> python .\src\prj4.py 24
Solution Nonce: 13890264
Solution: 13890264
Valid Solution: 1
Runtime: 43.63257312774658
```

Difficulty vs Runtime