

CS 5158 POW Report – Brad Didier

My code was compiled and ran on Windows using Windows PowerShell. I am on Python 3.10.

To run this program, simply launch the `main.py` file located in the `pow_m13817941` folder. This can be done using the command `python main.py` while in the directory. No launch parameters are required, as the locations of the `.txt` files are mapped relatively in the program functions.

Target Generation Function:

[illegible]

Solution Generation Function:

```
Press 0 to Quit
Press 1 to Generate a Target
Press 2 to Generate a Solution
Press 3 to Verify

Enter your choice: 2
Solution Generated: 5246
```

Verification Function:

```
Enter your choice: 3
1 - Solution is Valid

Press 0 to Quit
Press 1 to Generate a Target
Press 2 to Generate a Solution
Press 3 to Verify
```

Below are the results of comparing the runtime of generating solutions from 8 different difficulties:

Difficulty	Solution Generated	Time to Generate
16	5246	<1 sec
17	129657	<1 sec
18	129657	<1 sec
19	349208	<1 sec
20	5033180	9.76 sec
21	5033180	9.96 sec
22	5033180	9.95 sec
23	5033180	9.86 sec
24	5033180	10.1 sec