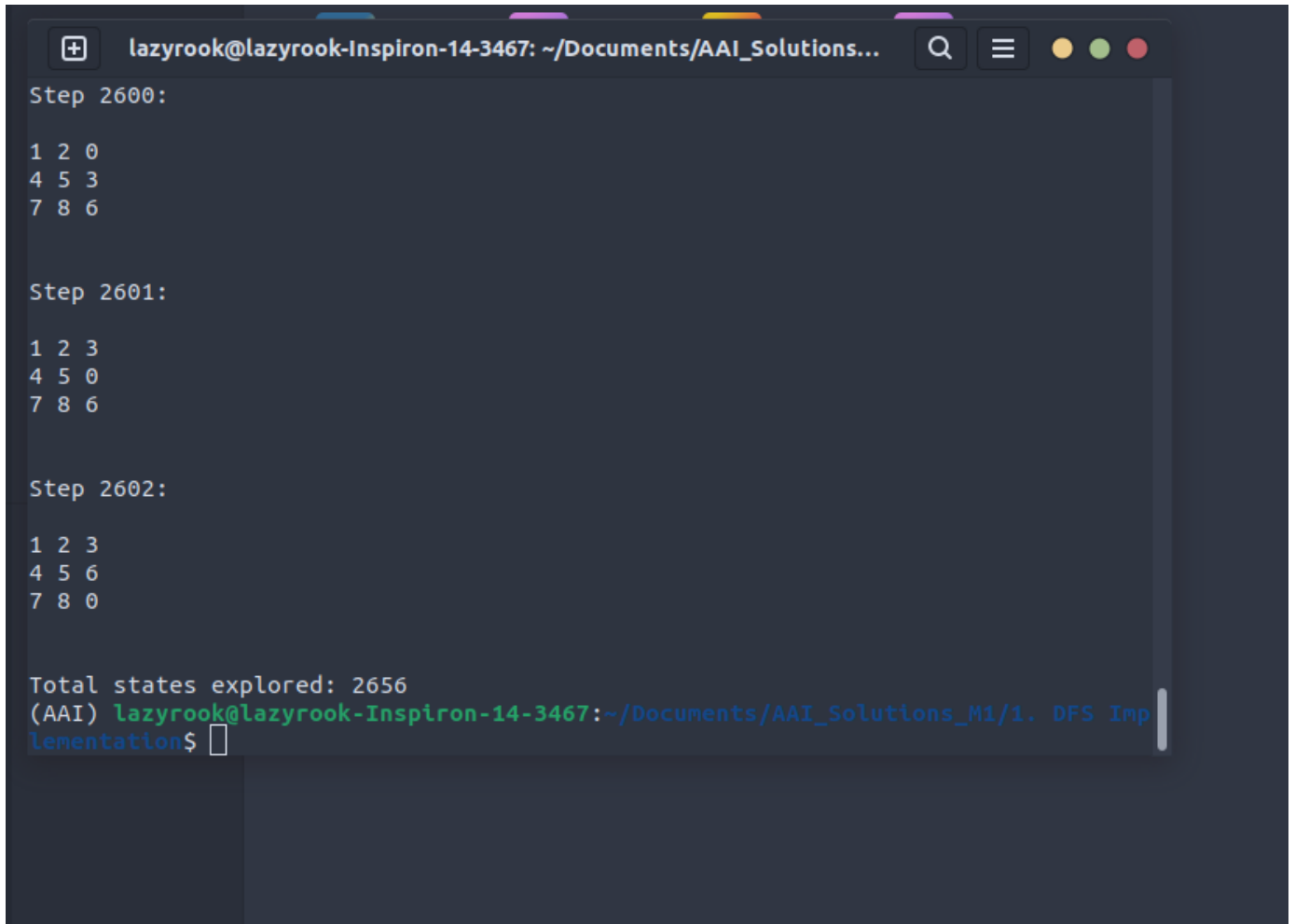


Solution 8 Puzzle

DFS Implementation

one.txt

A terminal window with a dark background and light-colored text. The window title is "lazyrook@lazyrook-Inspiron-14-3467: ~/Documents/AAI_Solutions...". The output shows three steps of a DFS search for the 8-puzzle solution. Step 2600 shows a state with tiles 1, 2, 0 in the first row, 4, 5, 3 in the second, and 7, 8, 6 in the third. Step 2601 shows a state with tiles 1, 2, 3 in the first row, 4, 5, 0 in the second, and 7, 8, 6 in the third. Step 2602 shows a state with tiles 1, 2, 3 in the first row, 4, 5, 6 in the second, and 7, 8, 0 in the third. Below these steps, it says "Total states explored: 2656". The prompt "(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/1. DFS Imp" is followed by "lementation\$" and a cursor.

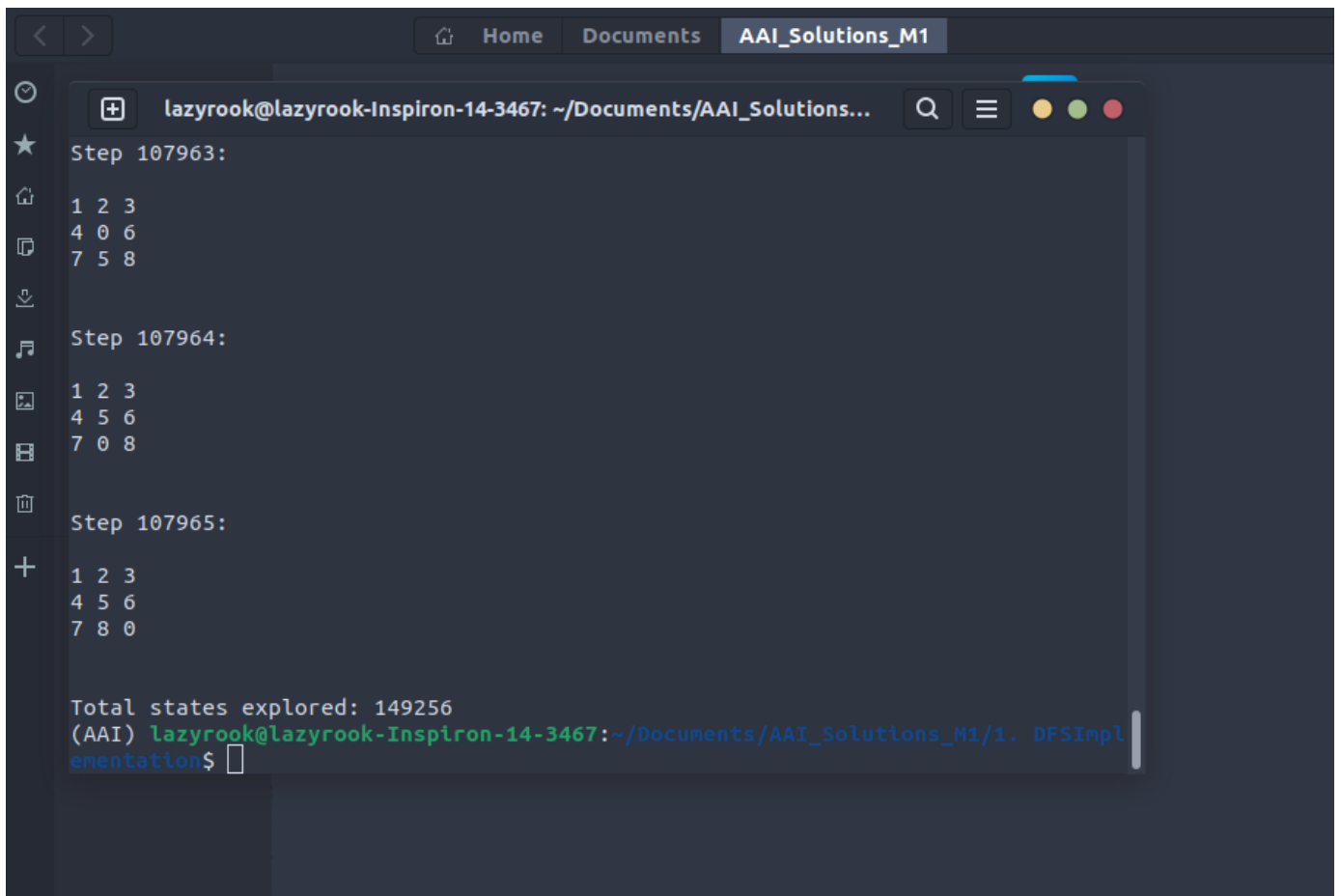
```
lazyrook@lazyrook-Inspiron-14-3467: ~/Documents/AAI_Solutions...
Step 2600:
1 2 0
4 5 3
7 8 6

Step 2601:
1 2 3
4 5 0
7 8 6

Step 2602:
1 2 3
4 5 6
7 8 0

Total states explored: 2656
(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/1. DFS Imp
lementation$
```

two.txt

A terminal window titled 'AAI_Solutions_M1' showing the output of a BFS implementation. The window has a dark theme and a sidebar on the left with various icons. The main area displays three steps of the search process, each showing a 3x3 grid of numbers. The first step is labeled 'Step 107963:', the second 'Step 107964:', and the third 'Step 107965:'. Each step shows a grid of numbers. The first grid is: 1 2 3, 4 0 6, 7 5 8. The second grid is: 1 2 3, 4 5 6, 7 0 8. The third grid is: 1 2 3, 4 5 6, 7 8 0. Below the grids, the text 'Total states explored: 149256' is displayed. The prompt '(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/1. DFSImpl' is shown, followed by the word 'ementation\$' and a cursor.

```
Step 107963:
1 2 3
4 0 6
7 5 8

Step 107964:
1 2 3
4 5 6
7 0 8

Step 107965:
1 2 3
4 5 6
7 8 0

Total states explored: 149256
(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/1. DFSImpl
ementation$
```

BFS Implementation

one.txt

```
lazyrook@lazyrook-Inspiron-14-3467: ~/Documents/AAI_Solutions...
Step 0:
1 2 3
4 0 6
7 5 8

Step 1:
1 2 3
4 5 6
7 0 8

Step 2:
1 2 3
4 5 6
7 8 0

Total states explored: 6
(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/2. BFSImpl
ementation$
```

two.txt

```

Step 23:
1 2 3
4 0 6
7 5 8

Step 24:
1 2 3
4 5 6
7 0 8

Step 25:
1 2 3
4 5 6
7 8 0

Total states explored: 310387
(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/2. BFSImpl
ementation$
```

GBFS Implementation

one.txt

```
Step 0:
1 2 3
4 0 6
7 5 8

Step 1:
1 2 3
4 5 6
7 0 8

Step 2:
1 2 3
4 5 6
7 8 0

Total states explored: 3
(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/3. GBFSImplementation$
```

two.txt

```
Step 67:
1 2 3
4 0 6
7 5 8

Step 68:
1 2 3
4 5 6
7 0 8

Step 69:
1 2 3
4 5 6
7 8 0

Total states explored: 288
(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/3. GBFSImplementation$
```

A-star Implementation

one.txt

```
File Edit View Go Notebook Note Tools Help
lazyrook@lazyrook-Inspiron-14-3467: ~/Documents/AAI_Solutions...

Step 0:
A: 1 2 3
  4 0 6
Ak: 7 5 8
an

BCStep 1:
Cc: 1 2 3
  4 5 6
NL: 7 0 8
Py

ReStep 2:
SC: 1 2 3
St: 4 5 6
  7 8 0
We

Total states explored: 3
(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/4. A-starI
mplementation$
```

two.txt

```
File Edit View Go Notebook Note Tools Help
lazyrook@lazyrook-Inspiron-14-3467: ~/Documents/AAI_Solutions...

Step 23:
A: 1 2 0
  4 5 3
Ak: 7 8 6
an

BCStep 24:
Cc: 1 2 3
  4 5 0
NL: 7 8 6
Py

ReStep 25:
SC: 1 2 3
St: 4 5 6
  7 8 0
We

Total states explored: 2506
(AAI) lazyrook@lazyrook-Inspiron-14-3467:~/Documents/AAI_Solutions_M1/4. A-starI
mplementation$
```

one.txt