Description

You are provided with a **stub** where you must **insert your code without modifying the existing structure** to complete the task. You may **import any pre-installed module in Ed** if **needed**.

The current code will accept a **zero or positive integer** (that is, **non-strictly negative integer**) with **possible leading 0's** and **converts it to base 8** (**keeping leading 0's**, if any).

Given the following directions:

0: Move **North**

1: Move **North-West**

2: Move **West**

3: Move **South-West**

4: Move **South**

5: Move **South-East**

6: Move **East**

7: Move **North-East**

Reading the number **written in base 8** from **right to left**. We start from a position that is the **unique** position where the switch is **ON**. Moving to a position switches **ON** to **OFF** and **OFF** to **ON** there. By default, all positions are **OFF**.

Your program should display the **minimal rectangular shape** that includes all **ON** positions as shown in the **sample test cases** below.

Test Cases

$ python quiz_4.py
Enter a non-strictly negative integer: 0
Keeping leading 0's, if any, in base 8, 0 reads as 0.

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$ python quiz_4.py
Enter a non-strictly negative integer: 00
Keeping leading 0's, if any, in base 8, 00 reads as 00.

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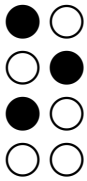
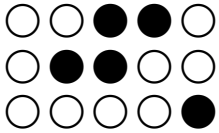
$ python quiz_4.py
Enter a non-strictly negative integer: 0256
Keeping leading 0's, if any, in base 8, 0256 reads as 0400.

$ python quiz_4.py
Enter a non-strictly negative integer: 032
Keeping leading 0's, if any, in base 8, 032 reads as 040.

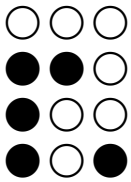
$ python quiz_4.py
Enter a non-strictly negative integer: 3654
Keeping leading 0's, if any, in base 8, 3654 reads as 7106.



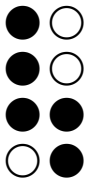
$ python quiz_4.py
Enter a non-strictly negative integer: 100738324
Keeping leading 0's, if any, in base 8, 100738324 reads as 600222424.



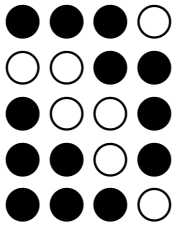
$ python quiz_4.py
Enter a non-strictly negative integer: 73776
Keeping leading 0's, if any, in base 8, 73776 reads as 220060.



$ python quiz_4.py
Enter a non-strictly negative integer: 7704322
Keeping leading 0's, if any, in base 8, 7704322 reads as 35307402.



$ python quiz_4.py
Enter a non-strictly negative integer: 206537612
Keeping leading 0's, if any, in base 8, 206537612 reads as 1423701614.



$ python quiz_4.py
Enter a non-strictly negative integer: 000123456789
Keeping leading 0's, if any, in base 8, 000123456789 reads as 000726746425.