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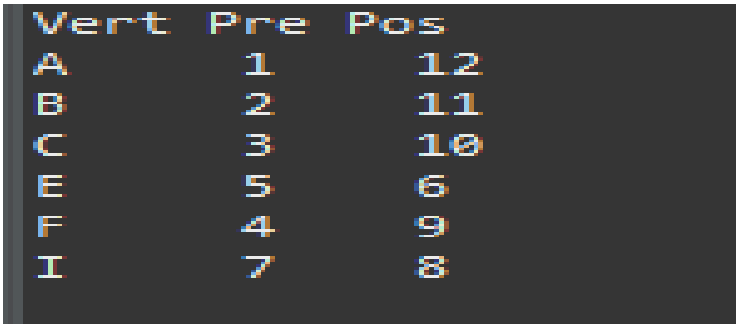
Lab3 Report

1) The implementation of problem one is in Graph.java to run it simply run the command javac Graph.java and then run java Graph



This is the output I received while running it.

2) To implement my water jug code. Run javac Waterjug.java then java Waterjug Afterwards enter each argument one by one.

For example, 0,7,4,2,7,2 should be entered as

Prompt from program:

0

7

4

Prompt from program:

2

7

2

3) test inputs results

```
Enter the three variables to represent the initial state:
0
7
4
Enter the three variables to represent end state:
2
7
2
(0, 7, 4)
(7, 0, 4)
(10, 0, 1)
(3, 7, 1)
(3, 4, 4)
(7, 4, 0)
(4, 7, 0)
(10, 1, 0)
(6, 1, 4)
(6, 5, 0)
(2, 5, 4)
(2, 7, 2)
finished at state: (2, 7, 2)
```

```
Enter the three variables to represent the initial state:
10
0
4
Enter the three variables to represent end state:
2
7
2
(10, 0, 4)
(3, 7, 4)
(7, 7, 0)
(10, 4, 0)
(6, 4, 4)
(6, 7, 1)
(10, 3, 1)
(7, 3, 4)
no pour sequence from (10, 0, 4) to (2, 7,2)
```

```
Enter the three variables to represent the initial state:
8
6
3
Enter the three variables to represent end state:
7
6
4
(8, 6, 3)
(7, 7, 3)
(6, 7, 4)
(10, 3, 4)
(10, 7, 0)
(10, 4, 3)
(9, 4, 4)
(9, 7, 1)
(10, 6, 1)
(7, 6, 4)
finished at state: (7, 6, 4)
```

```
6
2
(1, 7, 4)
(8, 0, 4)
(10, 0, 2)
(3, 7, 2)
(3, 5, 4)
(7, 5, 0)
(5, 7, 0)
(10, 2, 0)
(6, 2, 4)
(6, 6, 0)
(2, 6, 4)
(2, 7, 3)
(9, 0, 3)
(9, 3, 0)
(5, 3, 4)
(7, 1, 4)
(10, 1, 1)
(4, 7, 1)
(4, 4, 4)
(8, 4, 0)
no pour sequence from (1, 7, 4) to (3, 6,2)
```

```
Enter the three variables to represent the initial state:
2
7
4
Enter the three variables to represent end state:
3
6
2
(2, 7, 4)
(9, 0, 4)
(10, 0, 3)
(3, 7, 3)
(3, 6, 4)
(7, 6, 0)
(6, 7, 0)
(10, 3, 0)
(6, 3, 4)
(7, 2, 4)
(10, 2, 1)
(5, 7, 1)
(5, 4, 4)
(9, 4, 0)
no pour sequence from (2, 7, 4) to (3, 6,2)
```

```
3
(6, 3, 3)
(2, 7, 3)
(1, 7, 4)
(8, 0, 4)
(10, 0, 2)
(3, 7, 2)
(3, 5, 4)
(7, 5, 0)
(5, 7, 0)
(10, 2, 0)
(6, 2, 4)
(6, 6, 0)
(2, 6, 4)
(5, 3, 4)
(9, 3, 0)
(9, 0, 3)
(7, 1, 4)
(10, 1, 1)
(4, 7, 1)
(4, 4, 4)
(8, 4, 0)
no pour sequence from (6, 3, 3) to (3, 6,3)
```