

*Monday, Monday*

$$1 = C$$

*John Phillips*

The diagram illustrates the evolution of a 5-qubit quantum state through two stages of a quantum circuit. The initial state is  $|00000\rangle$ . The first stage consists of a CNOT with control on qubit 4 and target on qubit 1, followed by a CNOT with control on qubit 3 and target on qubit 2. The second stage consists of a CNOT with control on qubit 4 and target on qubit 1, followed by a CNOT with control on qubit 3 and target on qubit 2. The final state is  $|00000\rangle$ .

Diagram 1:  $15 \div 10 = 1 \text{ R } 5$

Diagram 2:  $10 \div 5 = 2 \text{ R } 0$

Diagram 3:  $\text{gcd}(15, 10) = 5$

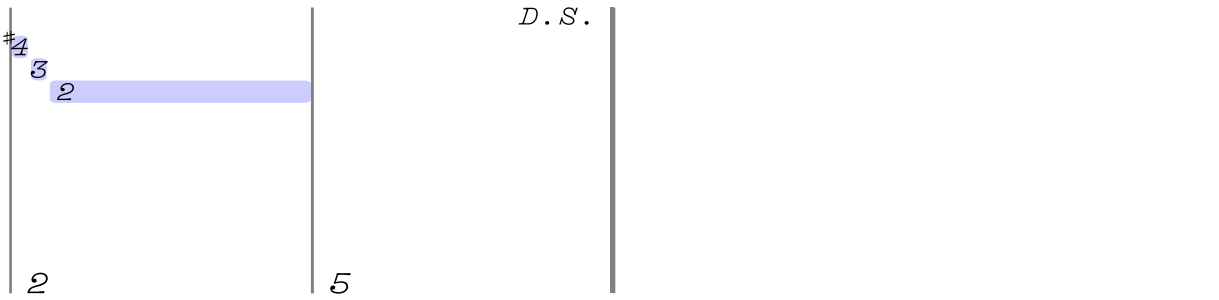
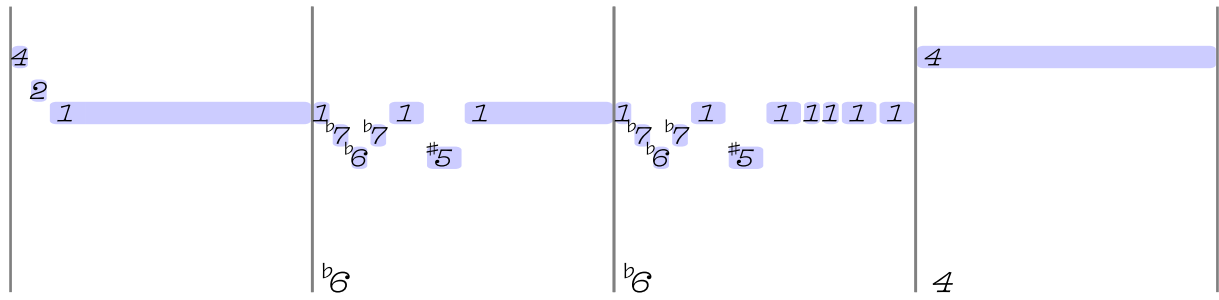
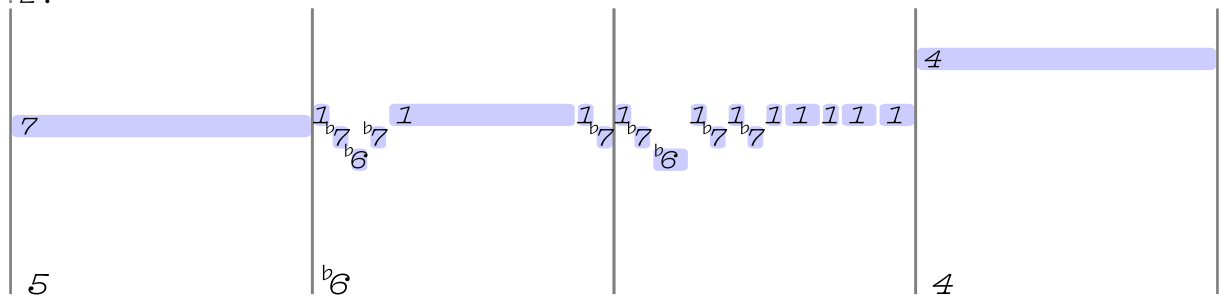
The diagram illustrates a sequence of operations on a stack. The stack initially contains the elements 1, 2, 3, 4, and 5. The operations performed are:

- Pop 5
- Push 6
- Pop 6
- Push 7
- Pop 7
- Push 8
- Pop 8
- Push 9
- Pop 9
- Push 10
- Pop 10

The final state of the stack is [1, 2, 3, 4].

Fruit	Number of People
Apple	1
Banana	7
Orange	5
Grape	7

2.



*D. S.*