# Lifts worksheet

**Situation 1**

| Floor | Lift 1 | Lift 2 | Lift 3 | Passengers waiting |
|:---:|:---:|:---:|:---:|:---:|
| 10 | | | ○ | |
| 9 | | | | ↑ [1] |
| 8 | | | | |
| 7 | ↑ (10,8) | | | |
| 6 | | | | |
| 5 | | | | |
| 4 | | | | |
| 3 | | ○ | | |
| 2 | | | | |
| 1 | | | | |
| 0 | | | | ↑ [2] |

**Situation 2**

| Floor | Lift 1 | Lift 2 | Lift 3 | Passengers waiting |
|:---:|:---:|:---:|:---:|:---:|
| 10 | | ○ | | ↓ [3] |
| 9 | | | | |
| 8 | | | ↑ (9) | |
| 7 | | | | |
| 6 | | | | |
| 5 | | | | |
| 4 | | | | |
| 3 | | | | |
| 2 | | | | ↓ [1] ↑ [2] |
| 1 | ↓ (0) | | | |
| 0 | | | | |

**Key**:

- Position of each lift is indicated by ○ if stationary; ↑ if moving up; ↓ if moving down.

- Numbers in brackets next to lift indicator illustrate destination floor of passengers already in the lift.

- Arrows in passenger column indicate that a lift has been called to go in that direction on that floor. The number in square brackets indicates the order in which these calls were made.

**Situation 3**

| Floor | Lift 1 | Lift 2 | Lift 3 | Passengers waiting |
|---|---|---|---|---|
| 10 | | | | ↓ [1] |
| 9 | ↓ (0,3,1) | | | |
| 8 | | ↑ (10) | | |
| 7 | | | | ↑ [2] |
| 6 | | | | |
| 5 | | | | ↓ [6] ↑ [5] |
| 4 | | | ↓ (0,1) | |
| 3 | | | | ↑ [7] |
| 2 | | | | ↓ [4] ↑ [3] |
| 1 | | | | |
| 0 | | | | |

**Situation 4**

| Floor | Lift 1 | Lift 2 | Lift 3 | Passengers waiting |
|---|---|---|---|---|
| 10 | | | | |
| 9 | | | ↑ (10) | ↓ [6] |
| 8 | | | | |
| 7 | | | | ↓ [3] |
| 6 | | | | ↓ [1] ↑ [4] |
| 5 | | | | |
| 4 | | ↑ (9,7,6) | | |
| 3 | | | | ↓ [7] |
| 2 | | | | ↓ [2] |
| 1 | ↓ () | | | |
| 0 | | | | ↑ [5] |

**Key**:

- Position of each lift is indicated by ∘ if stationary; ↑ if moving up; ↓ if moving down.

- Numbers in brackets next to lift indicator illustrate destination floor of passengers already in the lift.

- Arrows in passenger column indicate that a lift has been called to go in that direction on that floor. The number in square brackets indicates the order in which these calls were made.