D3 Data Bind

- Update selection
- Enter selection
- Exist selection

D3 Data Bind

- In a data bind, data values are bound to DOM elements
- Every data value becomes part of either the update

Compare data to DOM elements

Data that find matches --> Update selection

Data that don't find matches --> Enter selection

DOM elements that don't find matches --> Exit selection

Compare data to DOM elements

Number of elements:
UPDATE: 5
ENTER: 0
EXIT: 0

Compare data to DOM elements

Number of elements:
UPDATE: 4
ENTER: 0
EXIT: 1

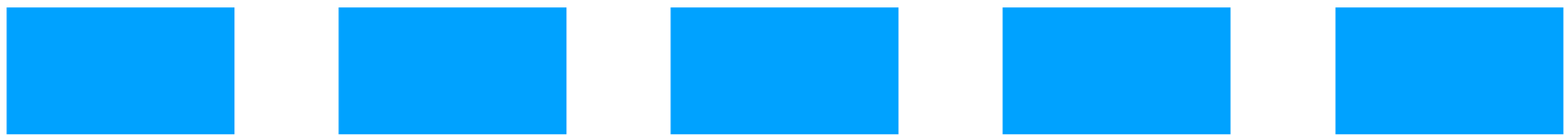
Compare data to DOM elements

Number of elements:
UPDATE: 4
ENTER: 1
EXIT: 0

Compare data to DOM elements

Number of elements:
UPDATE: 0
ENTER: 5
EXIT: 0

Compare data to DOM elements

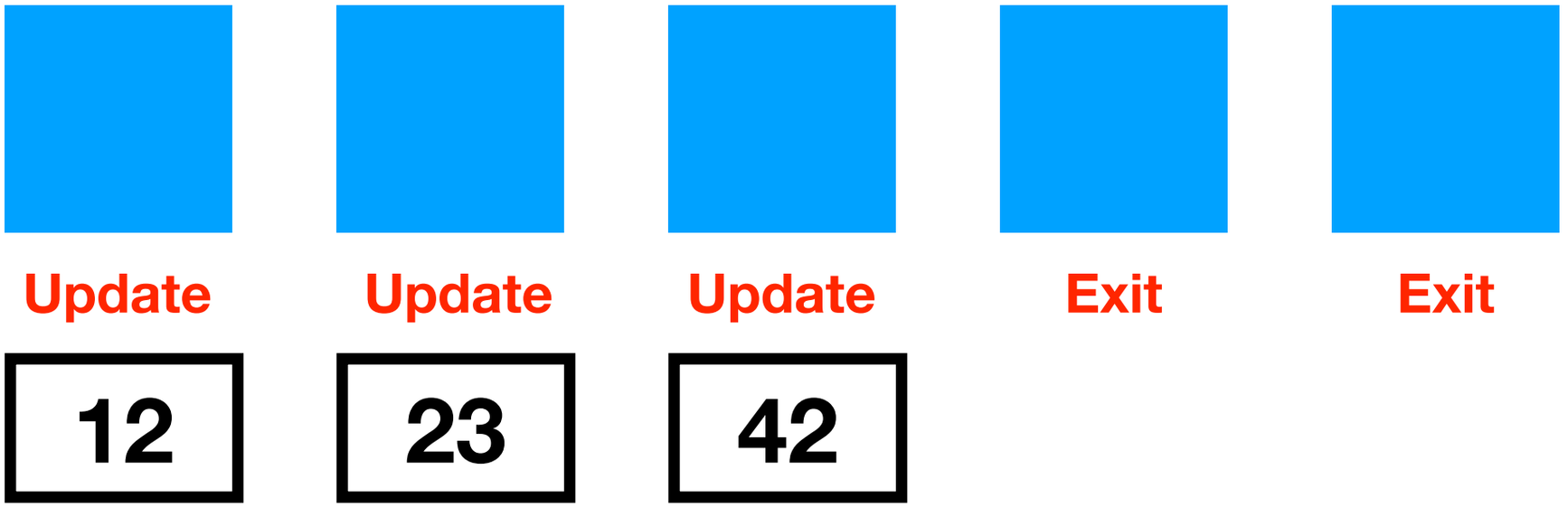


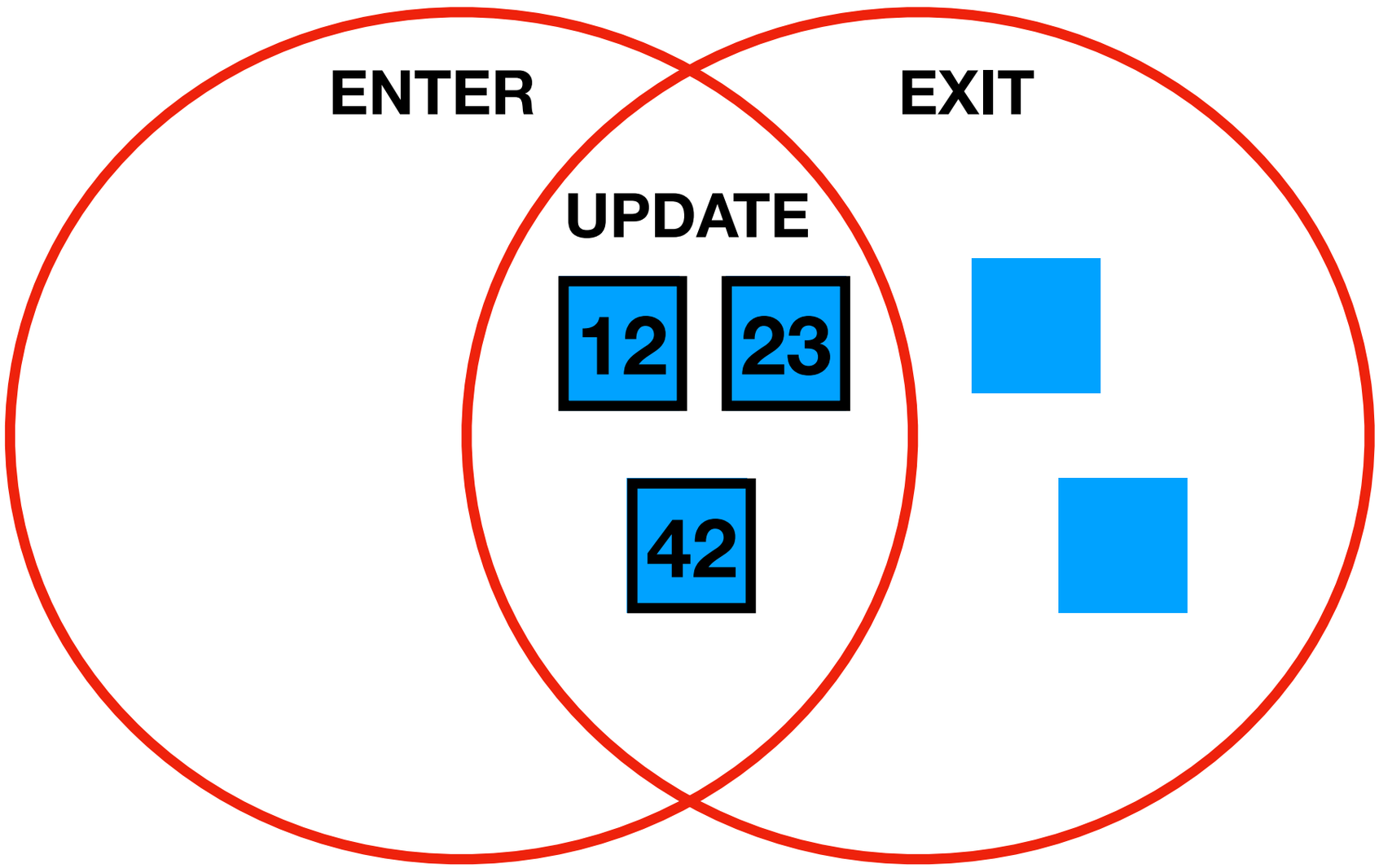
Number of elements:

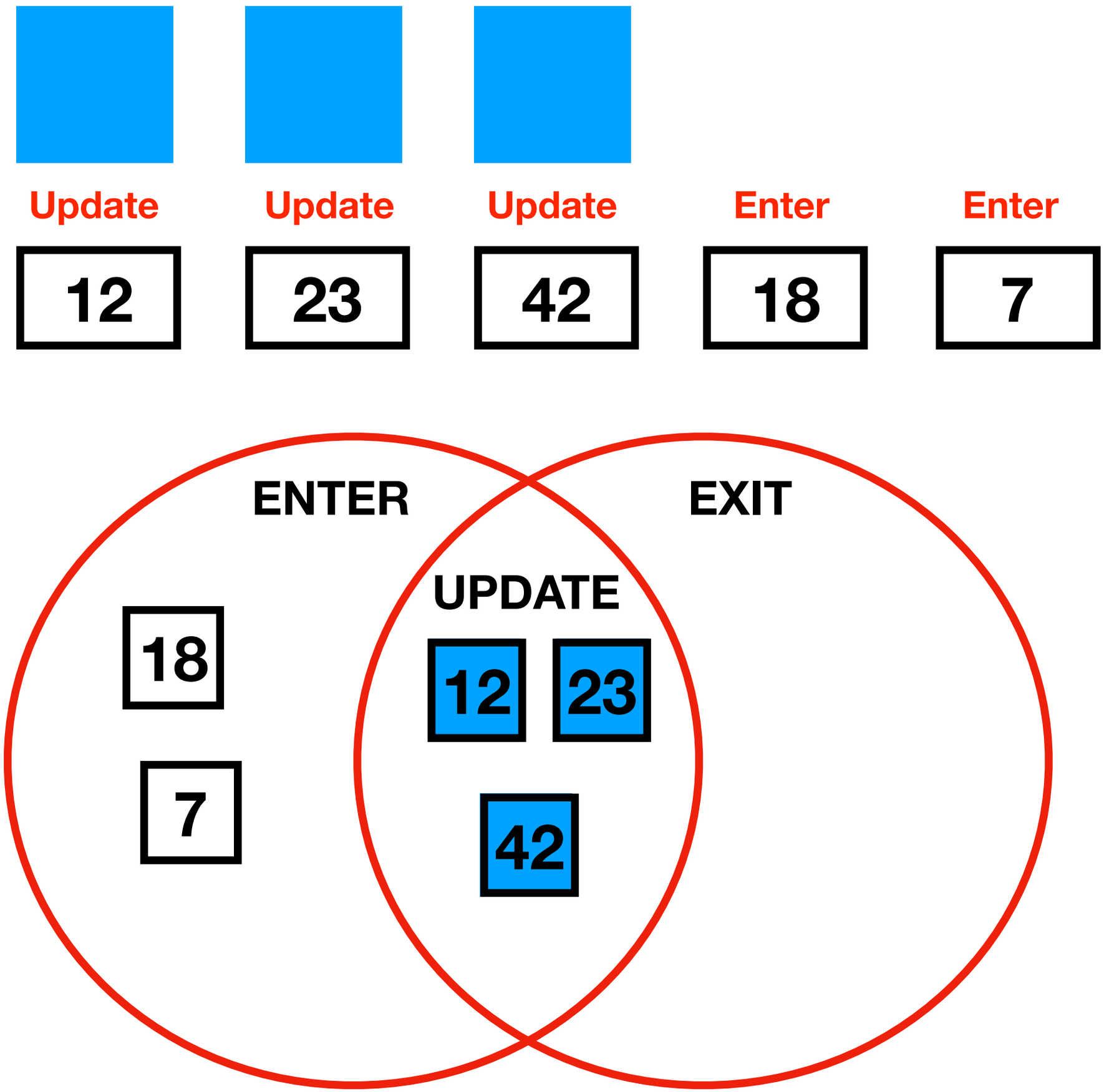
UPDATE: 0
ENTER: 0
EXIT: 5

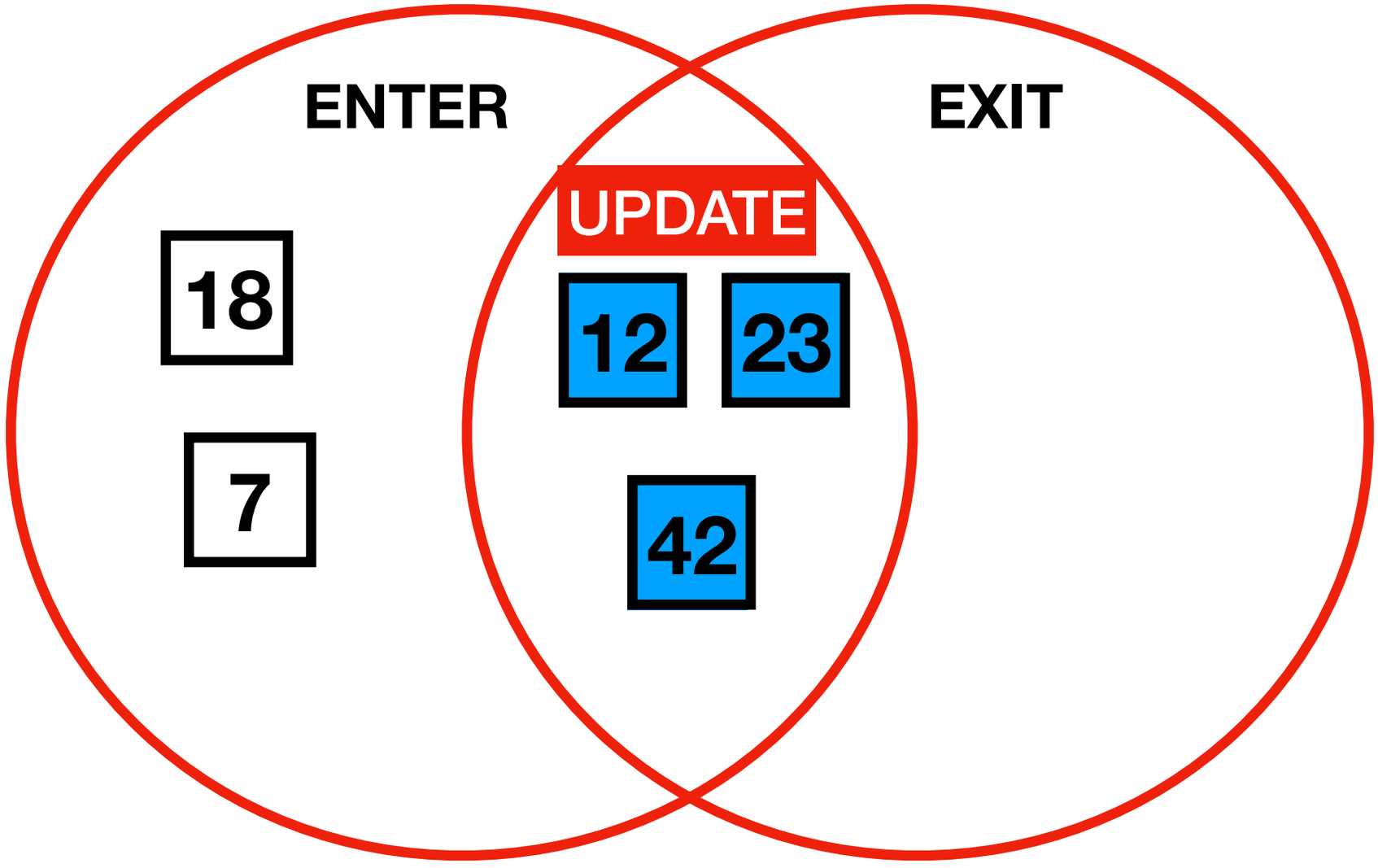
Compare data to DOM elements

Number of elements:
UPDATE: 5
ENTER: 0
EXIT: 0


Update
Update
Update
Exit
Exit
12
23
42


ENTER
EXIT
UPDATE
12
23
42

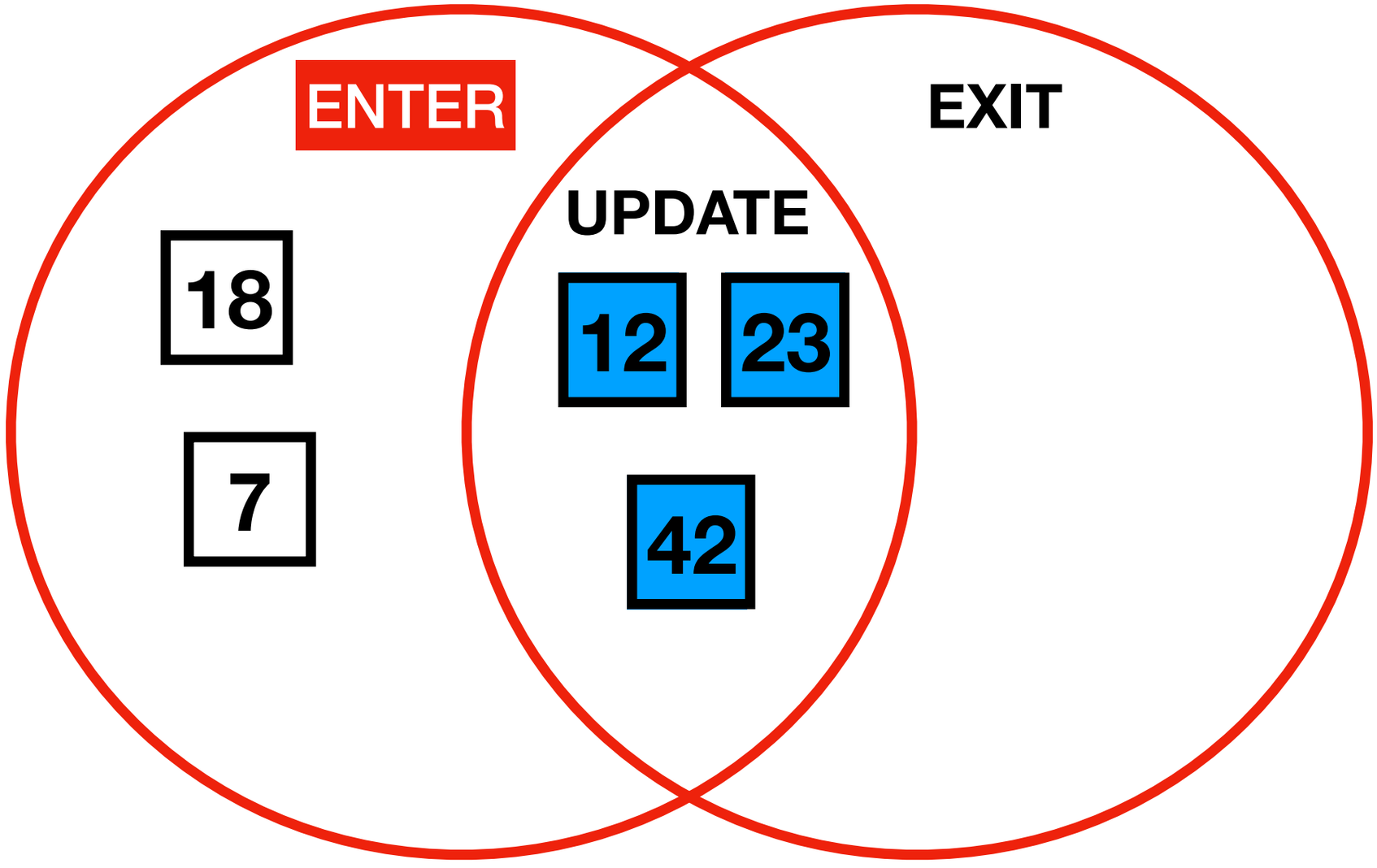

Update
Update
Update
Enter
Enter
12
23
42
18
7
ENTER
EXIT
UPDATE
18
12
23
7
42




```
d3.selectAll("rect").data([12, 23, 42, 18, 7])
```

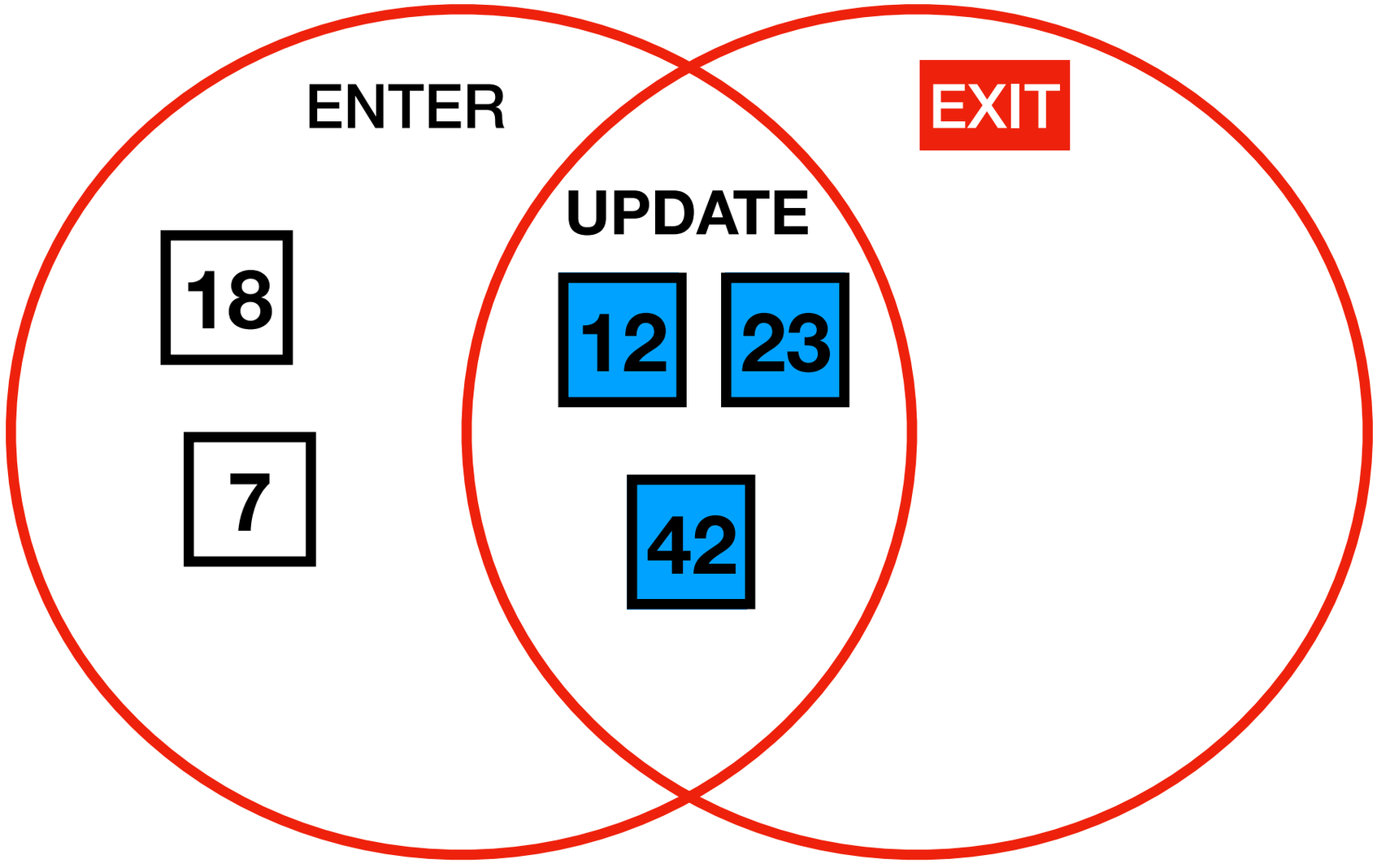
binds data and returns the update selection:

rectangles with 12, 23, 42 bound to them




```
d3.selectAll("rect")
   .data([12, 23, 42, 18, 7])
   .enter()
```

binds data and returns the enter selection: data values 18 and 7 (missing rectangles)




```
d3.selectAll("rect")
   .data([12, 23, 42, 18, 7])
   .exit()
```

binds data and returns the exit selection:
nothing in this case

Adding elements

Usually we use the *enter* selection to add DOM elements:

```
d3.selectAll("rect").data(dataset).enter()
  .append("rect");
```

Removing elements

Usually we use the *exit* selection to add DOM elements:

```
d3.selectAll("rect").data(dataset).exit()
   .remove();
```