

| & | 0 | 1 | x |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 1 | 0 | 1 | x |
| x | 0 | x | x |

| | 0 | 1 | x |
|---|---|---|---|
| 0 | 0 | 1 | x |
| 1 | 1 | 1 | 1 |
| x | x | 1 | x |

| ^ | 0 | 1 | x |
|---|---|---|---|
| 0 | 0 | 1 | x |
| 1 | 1 | 0 | x |
| x | x | x | x |

| \sim | 0 | 1 | x |
|--------|---|---|---|
| 0 | 1 | 0 | x |
| 1 | 0 | 1 | x |
| x | x | x | x |

Figure 4.39 Truth tables for bitwise operators.