

## 1 Exercises

**Exercise 1.** Implement a library called `logic.py` that supports the following API, along with a suitable `_main()` function that tests all the functions in the API:

| logic               |  |
|---------------------|--|
| <code>any(a)</code> | returns <code>True</code> if <i>any</i> of the entries in the boolean list <i>a</i> is <code>True</code> , and <code>False</code> otherwise  |
| <code>all(a)</code> | returns <code>True</code> if <i>all</i> of the entries in the boolean list <i>a</i> are <code>True</code> , and <code>False</code> otherwise |

## 2 Solutions

**Solution 1.**

```
logic.py

def any(a):
    for v in a:
        if v:
            return True
    return False

def all(a):
    for v in a:
        if not v:
            return False
    return True

def _main():
    import stdio

    x = [True, True, False, True]
    y = [True, True, True, True]
    stdio.writeln(any(x))
    stdio.writeln(any(y))
    stdio.writeln(all(x))
    stdio.writeln(all(y))

if __name__ == '__main__':
    _main()
```