

# Homework 1

Sean White, Kierstyn Brandt, Rostik Mertz

September 11, 2017

During this assignment, I recieved help from the following people and sources:

- EPI

**Question 1: Write one algorithm from EPI in pseudocode.**

---

**Algorithm 1** BINARY-SEARCH( $X, C$ )

---

```
1: Input:  $S, X, C$ 
2: Output:  $B$ , TRUE if value exists in array, otherwise FALSE
3:
4: if  $|X| == 1 \&\& X[0] \neq C$  then
5:     return FALSE
6: end if
7:  $i \leftarrow |X|/2$ 
8: if  $X[i] == C$  then
9:     return TRUE
10: end if
11: if  $X[i] > C$  then
12:     return BINARY-SEARCH( $X[i:—X—], C$ )
13: end if
14: if  $X[i] < C$  then
15:     return BINARY-SEARCH( $X[0:i], C$ )
16: end if
```

---