Lab 04: Making Decisions

Spring 2018

1 Question 1

Create three functions named in-subset-1?, in-subset-2?, and in-subset-3?. Each consumes a Num, x, and returns #true if x is in the subset and #false if it is outside the subset:

1. $2 < x \leq 7$
2. $0 < x < 4$ or $8 < x < 31$
3. the numbers outside of $2 \leq x \leq 5$

2 Question 2

Create the predicate function connect? that consumes two non-empty Str, string1 and string2, and determines if the last character in string1 is the same as the first character in string2. Note that uppercase and lowercase letters are different.

```
(connect? "abc" "CDEF") => #false
```

3 Question 3

Consider an auction that only considers bids that are over $100 and are even numbers. Create a predicate function acceptable-bid? that consumes a list of Nat and returns #true if all the bids in the list are considered.

```
(acceptable-bid? (list 100 202 303)) => #false
```

4 Question 4

Create a function (of-age? guest1 guest2) that consumes two Nat, representing the ages of two guests. The function returns #true if they are both 18 or older, 1 if guest1 is 18 or older, 2 if guest2 is 18 or older, and #false if they are both under 18.

```
(of-age? 17 18) => 2
```