

# A Simple Prolog Game

Programming Assignment #3  
CSC 481 – Spring '08

## **Problem Statement**

The game is a simple one: given a list of integers, figure out whether there is a hole in the sequence of the given integers and what are the values that are missing. A couple of rules:

- (a) The integers given will always be greater than 0.
- (b) No integer value is allowed to be repeated in the list.
- (c) The integer values do not necessarily appear in order.
- (d) Each list has at most one hole.
- (e) You should return a list of value(s).
- (f) If no hole exists, return an empty list.

For example:

```
?- game([3,1,4,6,5],X).
```

```
X = [ 2 ]
```

```
?- game([3,1,2,4],X).
```

```
X = [ ]
```

```
?- game([2,6,7,5],X).
```

```
X = [3,4]
```

Hint: the built-in predicate `sort/2` (see prolog help menu) might come in handy.

## **Deliverables**

Submit your source code and proof that your program works (for example, a screen capture of running your program with some telling examples).

## **Submitting your Project**

Submit your work by email to [hamel@cs.uri.edu](mailto:hamel@cs.uri.edu) by **Friday February 29<sup>th</sup> 8am**.