## SPread.Com API - Usage Protocol

```
JF is one of:
  spread.com
                  CLIENT
                                            -- number (N)
    |<-----| ['sheet',...</pre>
                                            -- [">", N, N]
                                            -- [JF , "+", JF]
    |<-----| ['set',...
                                            -- [JF , "*", JF]
    |<-----| ['at',...
    |========| return (Number)
    |<----| ['at',...
(circ.|==========>| return (false)
ref.)
      ... ... |...(repeat set/at
                   indefinitely)
                   ___ (client closes
    V
                        connection)
```

1. Open a TCP connection to the SPYCAD.COM API server.

All requests have the following basic format: [request-type, spreadsheet-name, ...] where request-type is a string specifying the type of request, spreadsheet-name is the name of the spreadsheet as a string, and additional arguments vary by request.

- 2. To create a spreadsheet, send a **create** request, which is a JSON array with the following format: ["sheet", name, [[JF, ...] ...]]
  - In the second element, replace name with the name of the spreadsheet you are creating. This name should be unique. You may create multiple spreadsheets in one connection.
  - The third element is a 2D array of JFs (definition above), that represent the contents of your spreadsheet. Each inner array represents a row in the spreadsheet.
- 3. After creating a spreadsheet, you can set and read values in that spreadsheet in any order, as long as the connection remains open. When the connection is closed, whether by the server or the client, the spreadsheet data from that session is discarded by the server.
- 4. To set a value in a spreadsheet, send a **set** request, which is a JSON array with the following format: ["set", name, x, y, JF], where x and y are the row and column indices of the cell to be set, and JF is the value to be stored there. x and y should point to a cell within the bounds of the spreadsheet.
- 5. To evaluate a value in a spreadsheet, send an **at** request, which is a JSON array with the following format: ["at", name, x, y], where x and y are the row and column indices of the cell to evaluate, which must exist in the spreadsheet. The request returns the calculated numeric value of that cell. If a circular reference is detected during evaluation, the server sends back false.
- 6. If server receives a non-JSON request string, ex. '[', the connection will be closed.