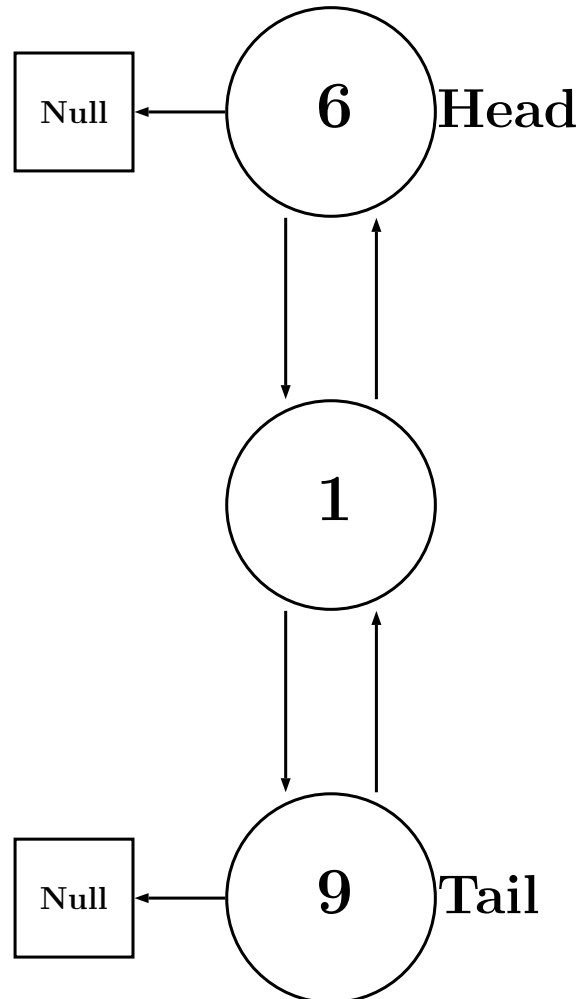


2. (50%)

- (a) Draw a figure showing a doubly-linked list containing three items, each of which holds an integer value. Label the head and tail of the list. Then draw an array containing the same three integer values in the same order.



- (b) Draw a table comparing the values of the functions $f(x) = x \log x$ (to the nearest integer) and $g(x) = x^2$ for the following values of x : 1, 10, 100, 1000, 10000, and 100000.

| x | $f(x) = x \log x$ | $g(x) = x^2$ |
|--------|-------------------|--------------|
| 1 | 0 | 1 |
| 10 | 20 | 100 |
| 100 | 500 | 10000 |
| 1000 | 6908 | 100000 |
| 10000 | 92103 | 100000000 |
| 100000 | 1151293 | 10000000000 |