

### Group 3

**J symbol (right-brace-dot):**  $\}.$

**Monadic case:**

Name: *behead*

Rank:  $_$  (infinite/unbounded) – applies to the entire array  $y$

Definition:  $\}. y$  removes the *first item* of  $y$ .

Please also include *explanations* for your answers to some of the following questions:

What is the result of removing the head of a vector?

What is the result of removing the head of a matrix?

What is the result of removing the head of a scalar?

What is the result of beheading an empty vector?

**Dyadic case:**

Name: *drop*

Rank: 1 (left);  $_$  (right) – applies to a vector on the left and the entire array on the right

Definition (scalar  $x$ ):  $x \}. y$  drops at most  $x$  *items* from  $y$ . If  $x$  is *positive*, then items are dropped from the *front* of  $y$ . If  $x$  is *negative*, then the items are dropped from the *back* of  $y$ .

Definition (vector  $x$ ):  $x \}. y$  returns an array constructed from the elements of  $y$  indexed by dropping length  $x_i$  of axis  $i$  of  $y$ , where  $x_i$  is the  $i$ -th element of  $x$ . The axis is taken from the front if  $x_i$  is positive, and from the back if  $x_i$  is negative. If  $x_i$  is infinity, then  $x_i$  is the length of axis  $i$  of  $y$ .

Please also include *explanations* for your answers to some of the following questions:

What array is returned when  $x$  is positive?

What array is returned when  $x$  is negative?

What array is returned when  $x$  is greater than the number of items in  $y$ ?

What array is returned when  $x$  is zero?

What array is returned when  $x$  is a vector?

What array is returned when  $x$  is a infinity?