These exercises are adapted from King, chapter 11–12.

1. If \( i \) is a variable and \( p \) points to \( i \), which of the following expressions are aliases for \( i \)? Circle the ones that are.

   (a) \(*p\) 
   (b) \&p 
   (c) \(*&p\) 
   (d) \&*p 
   (e) \(*i\) 
   (f) \&i 
   (g) \(*&i\) 
   (h) \&*i 

2. If \( i \) is an \texttt{int} variable and \( p \) and \( q \) are \texttt{int*} pointers, which of the following assignments are legal? Circle the ones that are.

   (a) \( p = i; \) 
   (b) \( *p = &i; \) 
   (c) \( &p = q; \) 
   (d) \( p = &q; \) 
   (e) \( p = *&q; \) 
   (f) \( p = q; \) 
   (g) \( p = *q; \) 
   (h) \( *p = q; \) 
   (i) \( *p = *q; \) 

3. Write a function \texttt{void swap(int* p, int* q)} that swaps the contents of two variables. How would you call \texttt{swap} on two \texttt{int} variables \( i \) and \( j \)?

4. Suppose we have the following:

   ```
   int a[] = {5, 15, 34, 54, 14, 2, 52, 72};
   int* p = &a[1];
   int* q = &a[5];
   ```

   What do each of the following evaluate to?

   (a) \( *(p + 3) \) 
   (b) \( *(q - 3) \) 
   (c) \( q - p \) 
   (d) \( p < q \) 
   (e) \( *p < *q \) 
   (f) \( p - a \) 
   (g) \( *(a + 2) \) 
   (h) \( *p + 3 \)