University of Stirling   Computing Science and Mathematics

CSCU9A1   **Autumn 2016**

Tutorial 5

1. Consider the following declaration of an array
    ```
    int[] arr = { 1,2,3,4,5,6,7,8,9,0} ;
    ```

   What is the value of `total` after each of the following fragments of code?

   ```
   int total = 0 ;
   for (int i = 0 ; i < arr.length ; i++)
       {total = total + arr[i] ;}

   int total = 0 ;
   for (int i = 0 ; i < arr.length ; i=i+2)
       {total = total + arr[i] ;}

   int total = 0 ;
   for (int i = 1 ; i < arr.length ; i=i+1)
       {total = total + arr[i] ;}

   int total = 0 ;
   for (int i = 0 ; i < arr.length ; i=i+2)
       {total = total + arr[i] ;}

   int total = 0 ;
   for (int i = arr.length -1 ; i > 0 ; i=i-1)
       {total = total + arr[i] ;}


   int total = 0 ;
   for (int i = arr.length -1 ; i >= 0 ; i=i-1)
       {total = total + arr[i] ;}

   int total = 0 ;
   for (int i = arr.length -1; i > 0 ; i=i+1)
       {total = total + arr[i] ;}
   ```

2. Write a method that is passed an array, x, of doubles and an integer rotation amount, n. The method creates a new array with the items of x moved forward by n positions. Elements that are rotated off the array will be moved to the beginning. For example, suppose x contains the following items in sequence:

1 2 3 4 5 6 7

After rotating by 4, the elements in the new array will appear in this sequence:

4 5 6 7 1 2 3