Unit 5 – Arrays – Challenging Application Questions

For each of these questions, you will need to declare a loop of the appropriate description first. Then code the operation described for it.

For example: Swap pairs of elements in an array. 0 and 1 swap, then 2 and 3, then 4 and 5 and so on.

```
int a [] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11};
for(int i=0; i<a.length; i+=2)
{
   int temp = a[i];
   a[i]=a[i+1];
   a[i+1]=a[i];
}
\\To verify that it works
for(int i=0; i<a.length; i++)
   System.out.print(a[i]+ " ");
```

Questions:

1. Find the max and the min using only one loop.
2. Find the second highest number in the array.
3. You have two parallel arrays. One holds people's names and the other is the age of each person in the name array. Ask the user for an age, then print all of the names of the people with that age. If no one has that age, a message should be printed outlining the fact.
4. Using a sorted array, find the max and min without using a loop.
5. Take a sorted array and make it unsorted.
6. Check if an array is sorted or not.
7. In an array, one number is duplicated. Find it.
8. In an array, replace all of one number (that the user picks) with another (that the user also picks).
9. Reverse the order of the elements in an array.