COMP10120 Practical Set 5: Pointers Pointers Pointers

Please read the questions carefully. Name each program based on your student number, the practical set number and question number. For this set (set5), question 1 should be named 1234567s5q1.c where your student number replaces 1234567. All questions that you are submitting can be zipped into a single file called 1234567s5.zip, where 1234567 is your student number and s5 refers to set 5. Please also include a readme.txt file which says which compiler you used to test your implementation. This zipped file can be submitted via Moodle for grading.

1. Write a C Program to demonstrate pointers to functions. The program should contain three functions: reverseArray, randomiseArray and printArray. The function prototypes and array initialisation are given below:

```
void reverseArray(int arraySize, int a[]);
void randomiseArray(int arraySize, int a[]);
void printArray(int arraySize, int a[], void (*arrayFunction)(int arraySize, int a[]));

int myArray = {2,4,6,8,10,12,14,16,18,20};
```

   reverseArray should swap reverse the order of all elements in an array; randomiseArray should randomly mix the order of elements in an array; printArray should print the contents of the array in reverse order or random order depending on user input. **See lecture notes for examples.**

2. Using **pointer notation** write a C Program which receives an integer array as a parameter and modifies the array elements by multiplying each one by 10. **You must use pointers and not array indexing.**

3. Everyone is interested in the public's opinion on the issues of the day. Write a C Program that asks users to rate the performance of political parties (FineF, FineG, SinnF, GreenP, IndependA) by rating the party's performance out of ten. After asking for the rating, the program should ask the questions again for the next user and so on. After the last user has indicated that there are no more users, the program should summarise the results, showing which political party had the highest and lowest rating.

   Hint: A good approach would be to increment the value of a rating for a party . The political party names should be stored using an array of pointers.
   See the lecture notes about both of these important feature.