Name:
Advanced Programming in C++
Lab Exercise 5/18/2021

Permutation Of Passwords

In this lab, we will look at a method of finding all permutations of a world. As in yesterday's examples, these algorithms are recursive in nature. Here is some code for a function that will generate all permutations of a word with a given size.

```
void permute(char *a, int k, int size)
{
   if (k == size)
   {
      for (int i = 0; i < size; i++)
      {
         cout << *(a + i);
      }
      cout << endl;
   }
   else
   {
      for (int i = k; i < size; i++)
      {
         int temp = a[k];
         a[k] = a[i];
         a[i] = temp;

         permute(a, k + 1, size);

         temp = a[k];
         a[k] = a[i];
         a[i] = temp;
      }
   }
}
```

This function requires 3 parameters; a C-style string, the starting point (normally 0), and the size of the string.

1. Write a main function that can use this permute function.
2. Modify the permute function to display the number a ways a word can be permuted.

When you have completed this program, submit your source code, a screenshot of the program running.