HW7 – Functions

Due on Nov. 8th, 6:00pm

1. Write a program that tests whether two words are anagrams (permutations of the same letters) using the following two functions:

```
void read_word(int words[26]);
int is_anagrams(int words1[26], int words2[26]);
```

In main(), the program calls read_word() twice, one for each word entered by the user. Two words are passed to is_anagrams() to check if they are anagrams or not. The length of a word is no longer than 20.

2. Write a program that receives a series of numbers until it receives 10 positive integers and prints out the median of every three consecutive numbers using a function "int med(int A, int B, int C)", which receives three integers and returns the largest number among them:

```
Enter 10 positive numbers:    12 3 15 16 -3 -4 5 9 -1 31 -11 -4 2 22 10
Median of each triplet:       12 15 15 9 9 9 22 10
```

3. Write a program that receives a character array (encrypted code) *Arr* and an integer number *K*, decrypts the encrypted code using *K*, and prints out the decrypted message.

Given a character and a number *K*, we encrypt the character by replacing it with another character that is *K* away in an alphabetical order. For example, setting *K*=3, 'a' is converted into 'd' and 'C' is converted into 'F'. We also assume that 'z' or 'Z' is followed by 'a' or 'A'. That is, setting *K*=5, 'X' is replaced by 'C'. Setting *K*=3, 'y' is replaced by 'b'. We assume that the input character array has been encrypted in this manner.

Write the decryption program using the following function:

```
char decrypt(char ch, int K);
```

decrypt() receives a character and a number and returns the original (unencrypted) character. For example, given 'g' and 2, it should return 'e'. A non-alphabet character, if any, is returned as it is.

The size of the character array is 10 and *K* must be >0.

```
Encrypted code:    jqjhywnhfq
K:                 5
Decrypted code:    electrical

Encrypted code:    RvylhBupc!
K:                 7
Decrypted code:    KoreaUniv!
```