

Problem FC-10 (1 part)**C Programming**

Part A: The C program below should count the frequency of letters in a text file and print a letter usage histogram. Fill in the body of the do-while loop to complete the program. Keep track of the number of letters encountered in NumLetters and keep a frequency count of each of the 26 letters in the LetterCount array. Only count characters that are one of the 26 letters (in either lower-case or upper-case) of the alphabet.

```
void LetterHistogram(FILE *FP) {
    int      Char, I, NumLetters = 0;
    int      LetterCount[] = {0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                                0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
                                0, 0, 0, 0};

    int      getc(FILE *);
    do {
        Char = getc(FP);

        NumLetters += 1;
        if (Char >= 'a' && Char <= 'z')
            LetterCount[Char - 'a'] += 1;
        else if (Char >= 'A' && Char <= 'Z')
            LetterCount[Char - 'A'] += 1;
        else
            NumLetters -= 1;

    } while (Char != EOF);
    printf("Letter Occurrence Histogram\n");
    for (I = 0; I < 26; I++)
        printf("[%c] %5d, %4.1f\\%\\n", I + 'A',
                LetterCount[I],
                100.0 * LetterCount[I] / NumLetters);
}
```