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Kelas : IF 03-02

Tugas algoritma dan struktur data

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#define MAX_LENGTH 2024
#define MIN_LENGTH 1945

void lessThanRequired(int *lengthOfText) {
    printf("The length of your text is less than specified, please update your text\n");
    *lengthOfText = MIN_LENGTH;
}

void equalThanRequired() {
    printf("Thank you, Your text length is correct\n");
}

void moreThanRequired(int *lengthOfText) {
    printf("Your text is too long, please reduce the text\n");
    *lengthOfText = MIN_LENGTH;
}

int checkLengthRequirement(char* text) {
    int length = strlen(text);
    if (length < MIN_LENGTH)
        return 0;
    else if (length == MIN_LENGTH)
        return 1;
    else
        return 2;
}

int main() {
    int lengthOfText, selectOption;
    FILE *fptr = NULL;
    char text[MAX_LENGTH];

    fptr = fopen("file.txt", "r");

    if (fptr == NULL) {
        printf("Error");
        exit(1);
    }

    fgets(text, MAX_LENGTH, fptr);

    fclose(fptr);

    selectOption = checkLengthRequirement(text);

    // Function pointers to avoid if or switch statements
    void (*lengthFunctions[])(int *) = {lessThanRequired, equalThanRequired, moreThanRequired};

    lengthFunctions[selectOption](&lengthOfText);

    printf("\nThe Length is updated to %d", lengthOfText);

    return 0;
}
```

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int main() {
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moreThanRequired};

    lengthFunctions[selectOption](&lengthOfText);

    printf("\nThe Length is updated to %d", lengthOfText);

    return 0;
}
```

Program ini berfungsi untuk membaca teks dari “file.txt” .

MAX_LENGTH dan MIN_LENGTH berfungsi untuk menentukan panjang maksimum dan minimum yang digunakan dalam teks.

Program ini memiliki tiga fungsi yang digunakan untuk situasi ketika panjang teks kurang dari, sama dengan, atau lebih dari yang dibutuhkan.

Ketika panjang teks kurang dari lebih mendekati MIN_LENGTH seperti kurang dari, sama dengan, atau lebih dari MIN_LENGTH tapi tetap mendekati MIN_LENGTH dari pada MAX_LENGTH maka program akan menganggap hasilnya adalah MIN_LENGTH, dan begitupun sebaliknya.