

Name: _____

Student ID: _____

Principles of Programming Quiz # 2

Instruction: You are required to answer all the following questions on this question paper.

Question 1

Determine the exact output of the following program:

```
#include <stdio.h>

typedef struct
{
    char name[30];
    int calories;
    float price;
} food;

void setupfood(food a, char *name, int calories, float price);

void main(void)
{
    food b;

    strcpy(b.name, "Apple");
    b.calories = 100;
    b.price = 0.50;

    setupfood(b, "Orange", 120, 0.50);

    printf("%s %d %f\n", b.name, b.calories, b.price);
}

void setupfood(food b, char *name, int calories, float price)
{
    strcpy(b.name, name);
    b.calories = calories;
    b.price = price;

    printf("%s %d %f\n", b.name, b.calories, b.price);
}
```

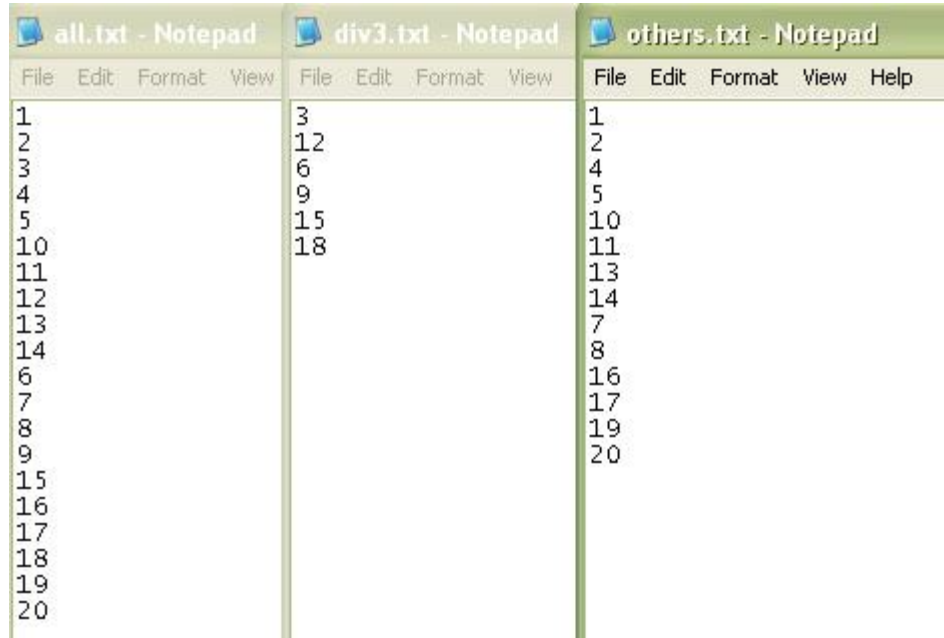
[6 Marks]

OUTPUT

```
Orange 120 0.500000
Apple 100 0.500000
Press any key to continue
```

Question 2

Write a program that read a file containing 20 numbers (all.txt), and then writes two files, one with all numbers divisible by three (div3.txt) and another containing all the other numbers (others.txt).



[14 Marks]

PROGRAM

```
#include<stdio.h>

void main()
{
    FILE *fileptr1, *fileptr2, *fileptr3;
    int i, number[20];

    fileptr1 = fopen("all.txt","r");

    fileptr2 = fopen("div3.txt","w");

    fileptr3 = fopen("others.txt","w");

    if(fileptr1 == NULL || fileptr2 == NULL || fileptr3 == NULL)
    {
        printf("Fail to open file!");
    }
}
```

```
else
{
    for(i = 0; i < 20; i++)
    {
        fscanf(fileptr1, "%d", &number[i]);

        if(number[i] % 3 == 0)
        {
            fprintf(fileptr2, "%d", number[i]);
        }
        else
            fprintf(fileptr3, "%d", number[i]);
    }

    fclose(fileptr1);
    fclose(fileptr2);
    fclose(fileptr3);
}
}
```