《C 语言及实习》第六次作业

姓名: _____ 学号: _____ 截止时间: 2020.4.23 24:00

1. 编写程序 ex01.c，把输入作为字符流读取，直至遇到 EOF。令其报告输入中的大写字母个数和小写字母个数。运行结果形如

```
Wuhan University<br>
In this char flow, there are 2 capital letters, 13 small letters.
```

2. 编写程序 ex02.c，猜 1-100 中的某个数字 z(如23)，使用二分法实现，具体步骤如下：

   - 假设你最初猜 50，让其询问 z 是大于、小于还是等于猜测值。
   - 若小于 50，则令下一次猜测值为 50 和 100 的平均值 75。
   - 若大于 75，则令下一次猜测值为 50 和 75 的平均值 62。

   运行结果形如

```
Pick an integer from 1 to 100. I will try to guess it.
Respond with a y if my guess is right and with
an n if it is wrong.

Please input your initial guess: 50[br]
Uh...is your number bigger, smaller than or equal to 50?
no[br]
Sorry, I understand only >, < or =.
Uh...is your number bigger, smaller than or equal to 50?
<[br]
Uh...is your number bigger, smaller than or equal to 25?
<[br]
Uh...is your number bigger, smaller than or equal to 13?
>[br]
Uh...is your number bigger, smaller than or equal to 19?
>[br]
Uh...is your number bigger, smaller than or equal to 22?
>[br]
Uh...is your number bigger, smaller than or equal to 23?
=[br]
I knew I could do it!
```

3. 编写程序 ex03.c，显示一个菜单，提供加法、减法、乘法或除法的选项。获取选择后，该程序请求两个数，然后执行选择的操作。(参考课件上的菜单实现)

   - 该程序应该只接受所提供的菜单选项，应使用 `float` 类型的数，并且如果用户未能输入数字应允许其重新输入。
   - 在除法的情况下，如果用户输入 0 作为第二个数，该程序应该提示用户输入一个新的值。

   运行结果形如

```
*************************
*       Calculator       *
*************************

Enter the operation of your choice:
+. add          -. substract
*. multiply     /. divide
q. quit
+[br]
Enter first number: 4[br]
Enter second number: 3[br]
4.00 + 3.00 = 7.00.

Enter the operation of your choice:
+. add          -. substract
*. multiply     /. divide
q. quit
-[br]
Enter first number: 8[br]
Enter second number: 2[br]
8.00 - 2.00 = 6.00.

Enter the operation of your choice:
+. add          -. substract
*. multiply     /. divide
q. quit
*[br]
Enter first number: 3[br]
Enter second number: 4[br]
3.00 * 4.00 = 12.00.
```

```
Enter the operation of your choice:
+. add          -. substract
*. multiply     /. divide
q. quit
/[br]
Enter first number: 2[br]
Enter second number: s[br]
s is not a number.
Please enter a number,
such as 2.5, -1.78E8, or 3: 5[br]
2.00 / 5.00 = 0.40.

Enter the operation of your choice:
+. add          -. substract
*. multiply     /. divide
q. quit
q[br]
Bye.
```