北京理工大学 英文授课专业留学本科（软件工程）

C 语言程序设计 期末考试试题

（上机完成 截止到 2021 年 1 月 25 日 17 点）

C language programming exam

Beijing Institute of Technology

INSTRUCTIONS:

➢ Make sure the program can run. Send the source code and result document to "lexue" platform.

➢ The deadline is 5:00 pm, 25-Jan-2021

➢ Plagiarism is not allowed

1,Write a C program that prompts a user to input the current month, day, year and **set** your student ID，your name \ birthday\location. Run the program and store the data entered in a sudentid.doc file which named by student number which like 182020***.doc.

Tip：use structure.

2, In the game of blackjack, the cards 2 through 10 are counted at their face values, regardless of suit, all face cards (jack, queen, and king) are counted as 10, and an ace is counted as either a 1 or an 11, depending on the total count of all the cards in a player's hand. The ace is counted as 11 only if the resulting total value of all cards in a player's hand does not exceed 21, else it is counted as a 1. Using this information, write a C program that accepts three card values as inputs (a 1 corresponding to an ace, a 2 corresponding to a two, and so on), calculates the total value of the hand

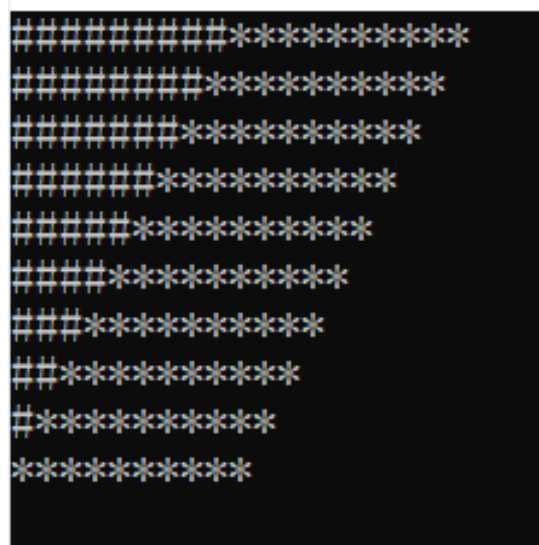appropriately, and displays the value of the three cards with a printed message.

    Tip: use selection.

3, Create a function named date( ) that accepts an integer of the form yyyymmdd, such as 20210116; determines the corresponding month, day, and year; and returns these three values to the calling function. For example, if date is called using the statement

date(20210116, &month,&day,&year) the number 1 should be returned in month, the number 16 in day, and the number 2021 in year.

  Write a program which can correctly call date( ) and display the three values returned by the function.

4,Write a C program to print the multiplication table as follows.

    Tip: use loop.

5, Write a C program to print the figure as follows.

```
--multiplication table------
 1  2  3  4  5  6  7  8  9
----------------------------
 1  2  3  4  5  6  7  8  9
    4  6  8 10 12 14 16 18
       9 12 15 18 21 24 27
         16 20 24 28 32 36
            25 30 35 40 45
               36 42 48 54
                  49 56 63
                     64 72
                        81

----------------------------
```

Tip: use loop.

6, Using the rand( ) C library functions, fill an array of 10000 double-precision numbers with random numbers that have been scaled to the range 1 to 100. Then determine and display the number of random numbers having values between 1 and 50 and the number having values greater than 50.

Tip: use array.