DCP1203 HW8

11/21

Outline

- Announcements

- Problems of HW8

Announcements

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- **11/23 Class Quiz 3!** Don't forget!

HW8: Problems

1

- Please modify the attached file (hw8_1_2.c).
- Write a **non-recursive** function bubbleSort to perform bubble sort algorithm. Please use **pointer** as many as possible.

1

- The screen dialog should appear as follows:

```
Enter a positive integer : 10

Data items in original order
   58   40   25   48   57   32   90   37   41   71

Data items in ascending order
   25   32   37   40   41   48   57   58   71   90

Please enter an integer value (-1 to quit): 41

The integer 41 was found in position 4.

請按任意鍵繼續 . . .
```

1

- The screen dialog should appear as follows:

```
Enter a positive integer : 10

Data items in original order
  45  64  50  38  96  36  93  98  38  20

Data items in ascending order
  20  36  38  38  45  50  64  93  96  98

Please enter an integer value (-1 to quit): 30

The integer 30 was not found.

請按任意鍵繼續 . . .
```

2

- Please modify the attached file (hw8_1_2.c)
- Write a **non-recursive** function binarySearch to perform binary search algorithm.
- Please use **pointer** as many as possible. The screen dialog should appear as question 1.

3

- Please use the function prototype `int ** matrixMultiplication(int **, int **);` to do matrix multiplication.

3

-

```
Please enter the first matrix:
48          69          8
24          79          24
32          59          10


Please enter the second matrix:
18          26          47
90          31          36
2           47          98


The result of multiplication of two matrices:
7090        3763        5524
7590        4201        6324
5906        3131        4608
```

4 (Card Shuffling and Dealing)

- Please modify the attached file (hw8_4_5_6.c), so that the card-dealing function deals a five-card poker hand. Then write the following additional functions:
  a) Determine if the hand contains a pair.
  b) Determine if the hand contains two pairs.
  c) Determine if the hand contains three of a kind (e.g., three jacks).

5 (Card Shuffling and Dealing)

- According to question 4, please modify the attached file (hw8_4_5_6.c), so that the card-dealing function deals a five-card poker hand. Then write the following additional functions:
  d) Determine if the hand contains four of a kind (e.g., four aces).
  e) Determine if the hand contains a flush (i.e., all five cards of the same suit).

6 (Card Shuffling and Dealing)

- According to question 4, please modify the attached file (hw8_4_5_6.c), so that the card-dealing function deals a five-card poker hand. Then write the following additional functions:

  f) Determine if the hand contains a straight (i.e., five cards of consecutive face values).

Example for 4, 5, 6

-
```
The hand is:
Deuce of Clubs
 Jack of Hearts
 Jack of Diamonds
Queen of Diamonds
  Six of Clubs

The hand contains a pair of Jacks.
```

Example for 4, 5, 6

-
```
The hand is:
Three of Clubs
Three of Spades
Queen of Clubs
  Ace of Clubs
Three of Diamonds

The hand contains three Threes.
```