#include <stdio.h>
#define ASIZE 40
#define MIN_BAL 0
#define MIN_AMT 3.00
#define MIN_DEPOSIT 100.00

struct campusCash
{
    double bal;  
    char   name[ASIZE];
    char   acctNum[ASIZE];
};

// FUNCTION DECLARATIONS
int passcode(char *s);
void menu(void);
double deposit (void);
double dine  (struct campusCash cc);
double kayak (struct campusCash cc);
void prtAcct (struct campusCash cc);

int main( void )
{
    int choice;  
    int isInvalid = 1;  
    struct campusCash ccl = {MIN_DEPOSIT};  
    printf(" Welcome to Campus Cash! \n\n");
    printf(" Enter Name and Account Number: ");
    scanf("%s", ccl.name, ccl.acctNum);
    do
    {
        isInvalid = passcode( ccl.name );
        if( isInvalid )
            printf("ERROR! Enter valid passcode.");
    } while( isInvalid );  
    prtAcct(ccl);  
    do
    {
        menu();  
        printf(" Enter 1, 2, 3, 4, or 5: ");
        scanf("%d", &choice);
        getchar();  
        switch(choice)
        {
            case 1:
                ccl.bal += deposit();  
                prtAcct(ccl);  
                break;
            ...
        }
    } while(choice != 5);  
}
b) The program will have the following function declarations:

```c
void menu( void );
int passcode( char *s );
void email ( struct campusCash cc );
double deposit ( void );
double dine ( struct campusCash cc );
double kayak ( struct campusCash cc );
void prtAcct ( struct campusCash cc );
```

c) `main()` will define one variable, `cc1`, type `struct campusCash`:

```
"struct campusCash cc1 = {MIN_DEPOSIT}; // Init $100 cc1 acct"
```

d) `passcode()` is called from `main()` and tests input string to match the exact magic passcode of “Cisfun”. `passcode()` returns a 1 if invalid password, zero if a valid password. Note: `strcmp()` on DevC++ returns a zero if both parameters are equal (No difference). Hint: use `scanf()` for input string.

e) `menu()` is called from `main()` and uses a series of `printf()` to display a menu of choices. e.g. `printf("     1: Deposit \n")`;

f) Write a function, `prtAcct()`, to display the data stored in the struct, see sample output below.

g) `deposit()` is called from `main()` and allows the user to enter a real number to be deposited into `cc1` account. Check for valid input greater than a minimum deposit amount of a hundred dollars. Loop and print an error message until a valid value is input. Return the deposit amount to `main()` to be added to the balance.

```c
double deposit()
{
    double amt; // Amount of deposit
    do
    {
        printf("Enter deposit amount: ");
        scanf("%lf", &amt);
        getchar();
        if(amt<MIN_DEPOSIT)
            do
            {
                printf("Enter deposit amount: ");
                scanf("%lf", &amt);
                getchar();
            } while(amt<MIN_DEPOSIT);
    }
    return amt; // Return deposit amount
}
```

h) Repeat step f) for “dine()” method to subtract the amount from the `cc1` account. Return this meal price amount and deduct from the balance in `main()` Pass in the struct `cc1` from `main()`. Check for valid input greater than a minimum amount of three, a maximum of $100.00, less than the current balance, otherwise print the error message.

   If the balance is zero, return zero. See sample output.

i) Repeat step h) for “kayak()”. Error check ranges are the same as dine(). These symbolic constants will help for a 1 day kayak rental of $23.00 and the required deposit amount of $575.00.

```c
#define MIN_AMT_KAYAK 23.00
#define DEPOSIT_KAYAK 575.00
```

   See sample output. [https://recreation.ucsd.edu/trips/kayaking/](https://recreation.ucsd.edu/trips/kayaking/)

j) Allow the user to email a transaction receipt with the user friendly message: “Email of transaction sent to kevin@ucsd.edu”, using the input name in lowercase letters and `ucsd.edu` email address. Do not modify the original user name.

   Hint: Use a local string, `strcpy()`, and `tolower()`.

   Note: No actual email is sent, only display a message.
Allow your program to repeat this calculation as often as the user wishes until the user types in number “5” to quit the program.

   e.g. printf("ERROR - Enter again - 1, 2, 3, 4, or 5: ");

Display a friendly exit message. Use “exit(0);” for program termination.

**PA#8 SAMPLE OUTPUT:** (SAMPLE INPUT is in **bold** type below)

Welcome to Campus Cash!

Enter Name and Account Number: **Seth 123**
Hello Seth. Please enter your passcode: **FUN**
ERROR! Enter valid passcode.
Hello Seth. Please enter your passcode: **Cisfun**

Seth's Account#:123 has a balance of $100.00

********** CAMPUS CASH CARD **********
1: Deposit
2: Dine
3: Kayak
4: Email receipt
5: Exit

********** CAMPUS CASH CARD **********

Enter 1, 2, 3, 4, or 5: **2**

Enter price of meal: **222.22**
ERR: Maximum meal is $100.00 !!

Enter price of meal: **90**

Seth's Account#:123 has a balance of $10.00

********** CAMPUS CASH CARD **********
1: Deposit
2: Dine
3: Kayak
4: Email receipt
5: Exit

********** CAMPUS CASH CARD **********

Enter 1, 2, 3, 4, or 5: **1**

Enter deposit amount: **600.00**

Seth's Account#:123 has a balance of $610.00

********** CAMPUS CASH CARD **********
1: Deposit
2: Dine
3: Kayak
4: Email receipt
5: Exit

********** CAMPUS CASH CARD **********

Enter 1, 2, 3, 4, or 5: **3**

Enter price of kayak rental plus deposit: **666.66**
ERR: INSUFFICIENT funds to kayak on balance of $610.00

Enter price of kayak rental plus deposit: **33.33**
ERR: Minimum rental+deposit is $598.00 !!

Enter price of kayak rental plus deposit: **598.00**

Seth's Account#:123 has a balance of $12.00

(continued on next page)
**PA#8 SAMPLE OUTPUT:** (continued)

(SAMPLE INPUT is in **bold** type below)

```
********** CAMPUS CASH CARD **********
1: Deposit
2: Dine
3: Kayak
4: Email receipt
5: Exit

Enter 1, 2, 3, 4, or 5: 1

Enter deposit amount: 0
ERR: Minimum deposit is $100.00 !

Enter deposit amount: 111.11

Seth's Account#:123 has a balance of $123.11

********** CAMPUS CASH CARD **********
1: Deposit
2: Dine
3: Kayak
4: Email receipt
5: Exit

Enter 1, 2, 3, 4, or 5: 4

Email of transaction sent to seth@ucsd.edu

********** CAMPUS CASH CARD **********
1: Deposit
2: Dine
3: Kayak
4: Email receipt
5: Exit

Enter 1, 2, 3, 4, or 5: 5

Thanks for using Campus Cash!
```

**Submit the final version of your program as p8.c**

**Verify you SAVED your work in the Documents - cs5f HOME directory.**