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IT 106 003

Assignment 2 Pseudocode

Defining Diagram

|  |  |  |
| --- | --- | --- |
| Input | Processing | Output |
| Student\_deposit  Menu  Student\_meal | Prompt user for menu  Read menu  Validate menu  Prompt user for student\_meal  Read student\_meal  Validate student\_meal  Prompt user for student\_deposit  Read student\_deposit  Validate student\_deposit  Calculate student\_deposit  Calculate meal\_count  Display student\_deposit, student\_deposit\_original, menu, meal\_count | Error\_invalid\_menu  Error\_invalid\_meal  Error\_insufficient\_money  Error\_invalid\_deposit  Error\_invalid\_input  Student\_money  Student\_money\_original  meal\_count |

Solution Diagram

CALCULATE\_STUDENT\_ACCOUNT

1. set student\_money to 106.00, student\_deposit to zero, student\_money\_original to 106.00
2. set student\_meal to blank, meal\_count to zero
3. set error\_insufficient\_fund to blank, error\_invalid\_meal to blank, error\_invaild\_menu to blank, error\_invalid\_deposit to blank, error\_invalid\_input to blank

REPEAT

1. DOWHILE student\_money > 4.92
2. Prompt user for meal
3. Read meal
4. IF menu NOT number THEN

Display error\_invalid\_menu ‘You are not allowed to enter letters, only number between 1 and 3 please.’

ENDIF

8 IF menu >=4 or menu <=0 THEN

Display error\_invalid\_input ‘error, only 1, 2, and 3 are allowed.’

ELSE

IF menu = 1 THEN

Prompt user for student\_meal

Read student\_meal

IF student\_meal NOT ‘breakfast’ OR ‘lunch’ OR ‘dinner’ THEN

Display error\_invalid\_meal ‘You are only allowed to type either breakfast, lunch, and dinner.’

ENDIF

IF student\_meal = ‘breakfast’ THEN

Student\_money = student\_money – 4.92

Add 1 to meal\_count

ELSE

IF student\_meal = ‘lunch’ THEN

Student\_money = student\_money – 7.06

Add 1 to meal\_count

ELSE

IF student\_meal = ‘dinner’ THEN

Student\_money = student\_money = 10.60

Add 1 to meal\_count

ENDIF

ENDIF

ENDIF

ENDIF

9 IF menu = 2 THEN

Prompt user for student\_deposit

Read student\_deposit

IF student\_deposit <= 0

Display error\_invalid\_deposit ‘You cannot withdraw money.’

Prompt user for student\_deposit

Read student\_deposit

ENDIF

Student\_money = student\_money + student\_deposit

ENDIF

ENDDO

10 Display error\_insufficient\_money ‘You have insufficient money, you will be exited.’

11 UNTIL menu = 3

12 READ student\_money, meal\_count, student\_money\_original

13 Print student\_money,meal\_count, student\_money\_original

END

Input Test Data

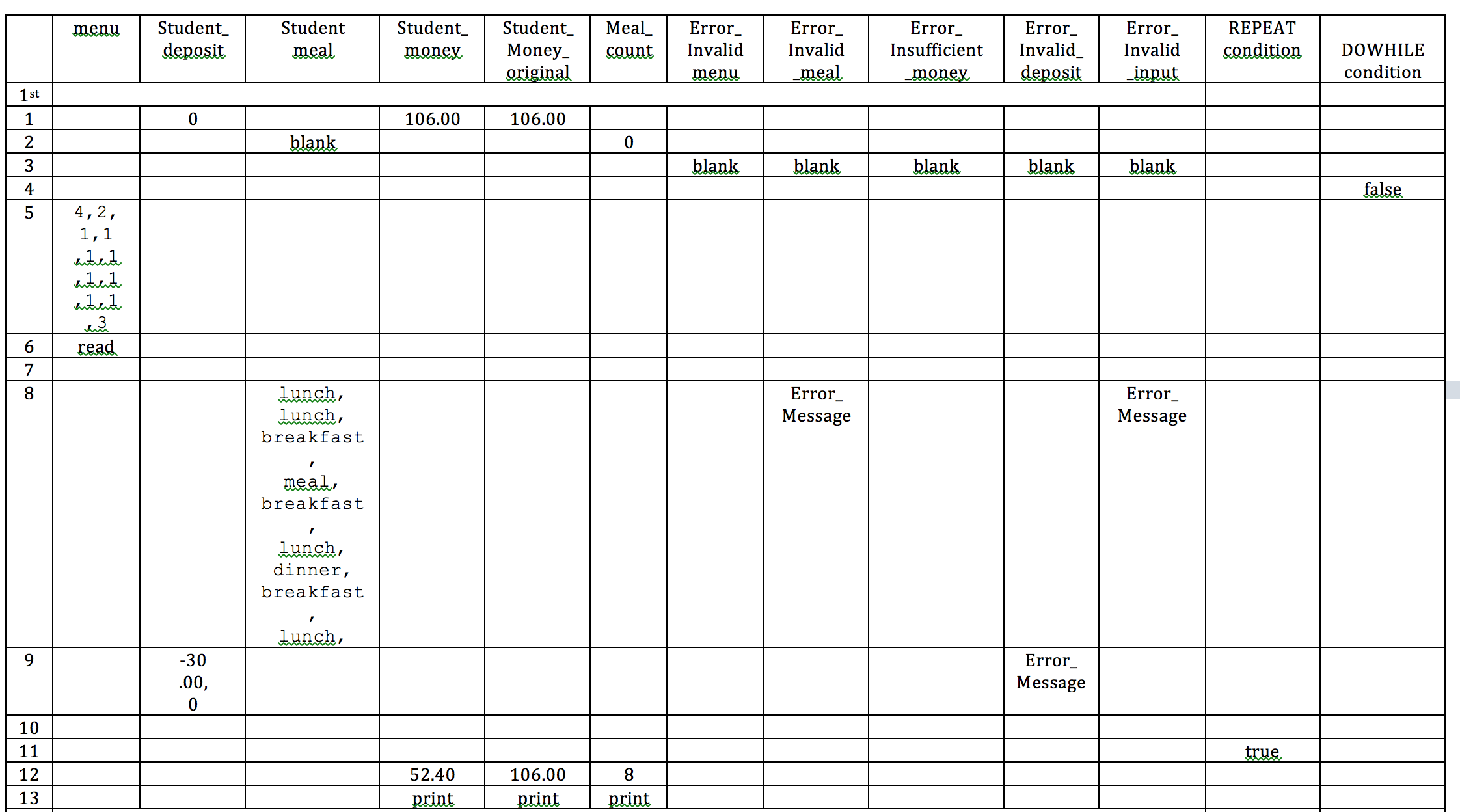
|  |  |  |  |
| --- | --- | --- | --- |
|  | First data set | | Second data set |
| Menu | 4,2,1,1,1,1,1,1,1,1,3 | | 2,2,1,1,ONE,1, 1,1,1,1,1,1,1,1,  1,1,1,1,1,1,1,1 |
| Student\_meal | lunch, lunch, breakfast, meal, breakfast, lunch, dinner, breakfast, lunch, | | breakfast, breakfast, breakfast, breakfast, breakfast, breakfast, lunch, dinner, dinner, dinner, dinner, dinner, dinner, dinner, dinner, dinner, dinner, breakfast, breakfast |
| Student\_deposit | | -30.00, 0 | 20.00, 30.00 |

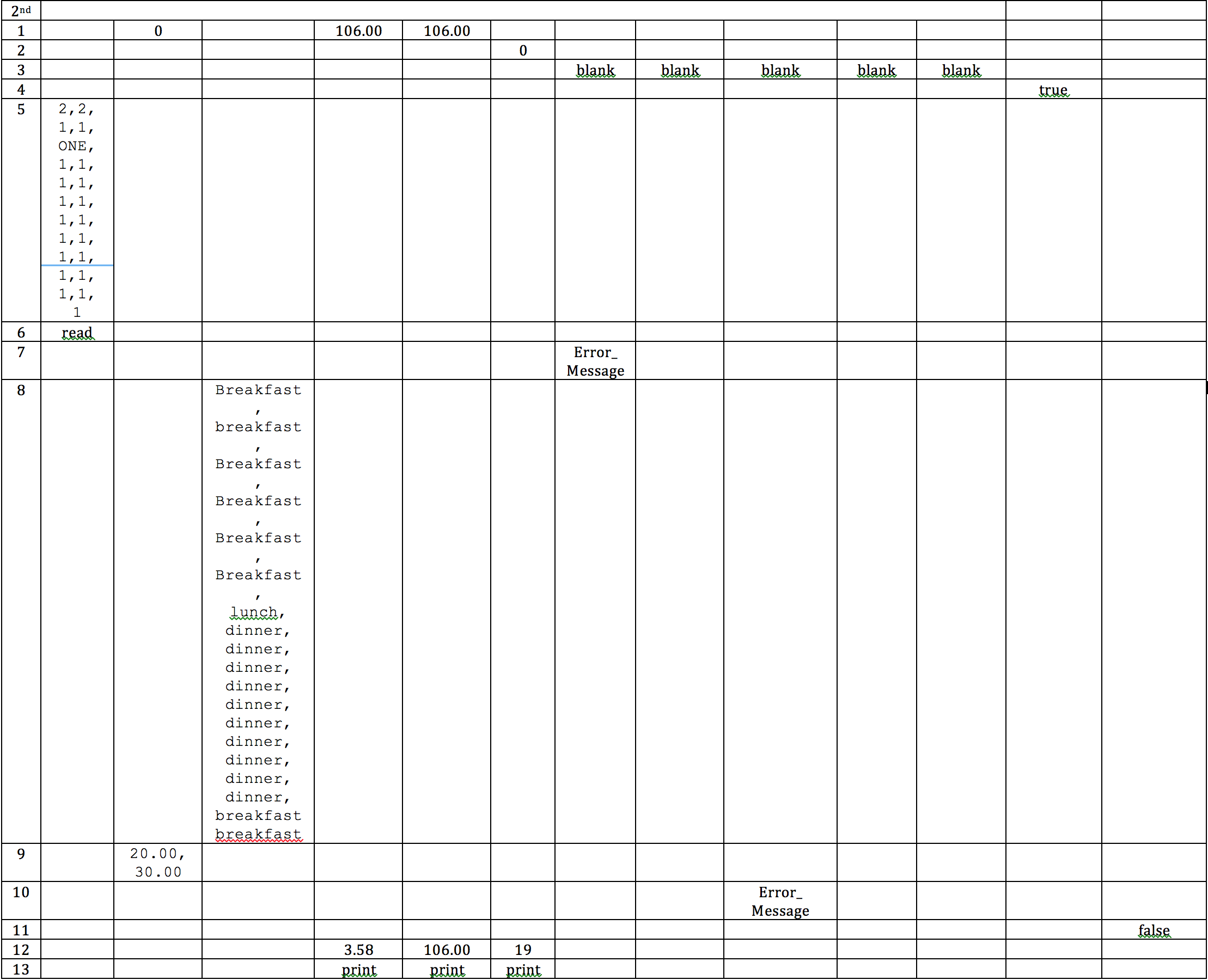
Expected Result

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | First data set | | Second data set | |
| Error\_invalid\_menu |  | | Error message | |
| Error\_invalid\_meal | Error\_message | |  | |
| Error\_insufficient\_money |  | | Error\_message | |
| Error\_invalid\_deposit | Error\_message | |  | |
| Error\_invalid\_input | Error\_message | |  | |
| Student\_money | | 52.40 | | 3.58 |
| Student\_money\_original | | 106.00 | | 106.00 |
| Meal\_count | | 8 | | 19 |

Desk Checking Table

It is too big to show the tables. I had to make a screenshot of the table.





|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | menu | Student\_  deposit | Student  meal | Student\_  money | Student\_  Money\_  original | Meal\_  count | Error\_  Invalid  menu | Error\_  Invalid  \_meal | Error\_  Insufficient  \_money | Error\_  Invalid\_  deposit | Error\_  Invalid  \_input | REPEAT  condition | DOWHILE condition |
| 1st |  | | | | | | | | | | |  |  |
| 1 |  | 0 |  | 106.00 | 106.00 |  |  |  |  |  |  |  |  |
| 2 |  |  | blank |  |  | 0 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  | blank | blank | blank | blank | blank |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |  | false |
| 5 | 4,2,  1,1  ,1,1  ,1,1  ,1,1  ,3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | read |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  | lunch,  lunch, breakfast,  meal, breakfast,  lunch, dinner, breakfast,  lunch, |  |  |  |  | Error\_  Message |  |  | Error\_  Message |  |  |
| 9 |  | -30  .00,  0 |  |  |  |  |  |  |  | Error\_  Message |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |  |  | true |  |
| 12 |  |  |  | 52.40 | 106.00 | 8 |  |  |  |  |  |  |  |
| 13 |  |  |  | print | print | print |  |  |  |  |  |  |  |
| 2nd |  | | | | | | | | | | |  |  |
| 1 |  | 0 |  | 106.00 | 106.00 |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  | 0 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  | blank | blank | blank | blank | blank |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  | true |  |
| 5 | 2,2,  1,1,  ONE,  1,1,  1,1,  1,1,  1,1,  1,1,  1,1,  1,1,  1,1,  1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | read |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  | Error\_  Message |  |  |  |  |  |  |
| 8 |  |  | Breakfast, breakfast,  Breakfast,  Breakfast,  Breakfast,  Breakfast,  lunch, dinner, dinner, dinner, dinner, dinner, dinner, dinner, dinner, dinner, dinner, breakfast breakfast |  |  |  |  |  |  |  |  |  |  |
| 9 |  | 20.00, 30.00 |  |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  | Error\_  Message |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |  |  |  | false |
| 12 |  |  |  | 3.58 | 106.00 | 19 |  |  |  |  |  |  |  |
| 13 |  |  |  | print | print | print |  |  |  |  |  |  |  |