P5: Design, develop, code and run the program in any suitable language to solve the commission problem.
Analyze it from the perspective of dataflow testing, derive different test cases, execute these test cases and discuss the test results.

Requirements:
R1:The system should read the number of locks, stocks and barrels sold in a month.

R2:If R1 is satisfied, the system should compile salesperson's commission depending upon the total number of locks, stocks and barrels sold, else it should display suitable error message.

Following is the % of commission for sales
10% on sales up to and including $1000
15% on next $800
20% on any sales in excess of $1800 and also the system should compute the $sales.

The system should output salesperson total $sales and his commission.
Design:
From the given requirements, we can draw the following conditions:
c1:1<=locks<=70
c2:1<=stocks<=80
c3:1<=barrels<=90

Algorithm:

STEP 1: Define lockprice=45.0, stockprice=30.0, barrelprice=25.0

STEP2: Input locks

STEP3: Write locks != -1

STEP4:input stocks, barrels

STEP5: compute locksales, stocksales, barrelsales and sales

STEP6: output sales
STEP7: if sales <=1000 goto STEP 8 else goto STEP 9

STEP8: com1=0.10*1000

STEP9: if 1000<sales<18000 goto STEP 10 else goto STEP 11

STEP10: com2=com1+0.15*(sales-1000.0)

STEP11:com3=com2+0.20*(sales-1800.0)

STEP12:output commission

STEP13: End

DATAFLOW TESTING - A structural testing technique.
Aims to execute sub-paths from points where each variable is defined to points where it is referenced.
These sub-paths are called definition-use pairs or du-pairs (du-paths, du-chains).
Data flow testing is centred on variables(data).
Data flow testing follows the sequences of events related to a given data item with the objective to detect incorrect sequences.
It explores the effect of using the value produced by every and each computation.

DEFINED node : Where the value is recieved. (LHS of the assignmnet operator)

USED node: Where the value is used. (RHS of the assignmnet operator)

Definition clear Meaning: In between DEF and USE node, no other node defines the particular variable.

It must satisfy DU path/node.