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Software Verification, Validation & testing

Lab: 2

Q: The Commission problem includes a salesperson. The salesperson sold rifle locks, stocks and barrels made by a gunsmith, cost of lock is $45, stocks is $30 and barrel is $25. The salesperson had to sell atleast one complete rifle per month and the production limits were such that the most the salesperson could sell in a month was 70 lock, 80 stocks, 90 barrels. After each town visit, the salesperson sends a telegram to the gunsmith with the no of locks, stocks, barrels sold in each town. At the end of the month, the salesperson sends a very short telegram, showing 1 lock sold. when gunsmith get this message, he knew that the sale for the month were complete & Compute the salesperson's commission.

It is as follows:—

On sales upto (and including) $1000 = 10%, on sales upto (and including) $1800 = 15%, on sales in excess of $1800 = 20%

Test Case ID	Summary	Dependency	Precondition	Post Condition	Input	Execution step	Expected O/P	Actual O/P	Status
(WN)									
TC-01	locks solds are at boundary, stocks & barrels are Valid	—	—	Commission amount	L=1 S=79, B=89	O/p the no. of locks, stocks & barrel sold	708		
TC-02	Stocks sold are at boundary, locks & barrels are Valid	—	—	"	L=20, S=1, B=20	"	63		
TC-03	Barrels are at Boundary, locks & stocks are Valid	—	—	Commission amount	L=20 S=20 B=1	"	152.5		
(SN)									
TC-04	lock is at boundary, stocks is at boundary, barrels are Valid	—	—	Commission amount	L=1 S=1 B=20	"	57.5		

TC-05	lock is at boundary, stocks are Valid, barrels is at boundary	—	—	Commission amount	L=1 S=20 B=1	Input the no. of locks, stocks, barrels sold	67
TC-06	lock is Valid, stock & barrel are at boundary	—	—	"	L=20 S=1 B=1	"	95.5
TC-07	locks, stocks, barrels are at boundary	—	—	Commission amount	L=0 S=1 B=20	"	53
(WR) TC-08	locks are invalid stocks and barrels are Valid	—	—	"	L=1 B=1 S=1	"	10
TC-09	lock & barrel are Valid, stock is invalid (lock is at boundary)	—	—	"	L=1 S=0 B=20	"	54.5

TC-10 (SR)	lock is Valid, stock is at boundary, Barrel is invalid	—	—	Commission amount	L=20 S=0 B=1	Input the no. of locks, stocks & barrels sold	92.5
TC-11	locks is invalid, stocks is invalid, barrel is at boundary	—	—	Commission amount	L=0 S=0 B=1	,,	2.5
TC-12	locks and barrel are invalid & stock is at boundary	—	—	,,	L=0 S=1 B=0	,,	3
TC-13	locks are at boundary, stocks & barrels are invalid	—	—	,,	L=1 S=0 B=0	,,	4.5
TC-14	locks, stocks & barrels are invalid	—	—	,,	L=0 S=0 B=0	Input the no. of locks, stocks & barrel sold	0

Code

```
#include <stdio.h>
int main()
{
int locks, stocks, barrels, t_sales, flag=0;
float commission;
printf("Enter the total no. of locks");
scanf("%d", &locks);
if((locks<=0)||(locks>70))
   {
    flag=1;
   }
printf("Enter the total no. of stocks");
scanf("%d",&stocks);
if((stocks<=0)||(stocks>80)
   {
    flag=1;
   }
if(flag==1)
   {
    printf("Invalid I/P\n");
    exit(0);
   }
printf("Enter the total no. of barrels");
scanf("%d",&barrels);
if((barrels<=0)||(barrels>90))
   {
    flag=1;
   }
```

```
t_sales = (locks *45)+(stocks *30)+(barrel *25);
if (t_sales <=10000)
   {
   commission = 0.10 * t_sales;
   }
else if (t_sales <1800)
    {
     Commission = 0.10 *1000;
     Commission = Commission +(0.15*(t_sales -1000));
    }
else
  {
   Commission = 0.10 *1000;
   Commission = Commission +(0.15 *800);
   Commission = Commission +(0.20 *(t_saks-1800));
  }
printf("The total sales is %d\n the commission is
        %F", t_sales, Commission);
  return ;
  }
```