TERMWORK 3: (Dataflow Testing for commission calculation)

```c
#include<stdio.h>
int main()
{
int locks, stocks, barrels, tlocks, tstocks, tbarrels;
float lprice,sprice,bprice,lsales,ssales,bsales,sales,comm;
lprice=45.0;
sprice=30.0;
bprice=25.0;
tlocks=0;
tstocks=0;
tbarrels=0;
printf("\nenter the number of locks and to exit the loop enter -1 for locks\n");
scanf("%d", &locks);
while(locks!=-1)  {
printf("enter the number of stocks and barrels\n");
scanf("%d%d",&stocks,&barrels);
tlocks=tlocks+locks;
tstocks=tstocks+stocks;
tbarrels=tbarrels+barrels;
printf("\nenter the number of locks and to exit the loop enter -1 for locks\n");
scanf("%d",&locks);
}
printf("\n total locks = %d\n",tlocks);
printf("total stocks =%d\n",tstocks);
printf("total barrels =%d\n",tbarrels);
lsales = lprice*tlocks;
ssales=sprice*tstocks;
bsales=bprice*tbarrels;
sales=lsales+ssales+bsales;
printf("\nthe total sales=%f\n",sales);
```

```c
if(sales > 1800.0)
{
comm=0.10*1000.0;
comm=comm+0.15*800;
comm=comm+0.20*(sales-1800.0);
}
else if(sales > 1000)
{
comm =0.10*1000;
comm=comm+0.15*(sales-1000);
}
else
comm=0.10*sales;
printf("the commission is=%f\n",comm);
return 0;

}
```

TERMWORK- 4(Boundary Test Case for Commission Problem)

```c
#include<stdio.h>

int main()

{

int locks, stocks, barrels, tlocks, tstocks, tbarrels;

float lprice, sprice, bprice, sales, comm;

int c1,c2,c3,temp;

lprice=45.0; sprice=30.0; bprice=25.0;

tlocks=0; tstocks=0; tbarrels=0;

printf("\n Enter the number of locks and to exit the loop enter -1 for locks\n");

scanf("%d",&locks);

while(locks!=-1)

{

c1=(locks<=0||locks>70);

printf("enter the number of stocks and barrels\n");

scanf("%d%d",&stocks,&barrels);

c2=(stocks<=0||stocks>80);

c3=(barrels<=0||barrels>90);

if(c1)

printf("value of locks not in the range 1..70 ");

else

{

temp=tlocks+locks;

if(temp>70)

printf("new total locks =%d not in the range 1..70 so old ",temp);

else

tlocks=temp;

}

printf("total locks = %d\n",tlocks);

if(c2)

printf("value of stocks not in the range 1..80 ");
```

```c
else
{
temp=tstocks+stocks; if(temp>80)
printf("new total stocks =%d not in the range 1..80 so old  ",temp);
else
   tstocks=temp;
}
printf("total stocks=%d\n",tstocks);
if(c3)
printf("value of barrels not in the range 1..90 ");
else
{
temp=tbarrels+barrels; if(temp>90)
printf("new total barrels =%d not in the range 1..90 so old ",temp);
else
tbarrels=temp;
}
printf("total barrel=%d",tbarrels);
printf("\nenter the number of locks and to exit the loop enter -1 for locks\n");
scanf("%d",&locks);
}
printf("\ntotal locks = %d\ntotal stocks =%d\ntotal barrels =%d\n",tlocks,tstocks,tbarrels);
sales = lprice*tlocks+sprice*tstocks+bprice*tbarrels;
printf("\nthe total sales=%f\n",sales);
if(tlocks>0&&tstocks>0&&tbarrels>0)
{
if(sales > 1800.0)
{
comm=0.10*1000.0;
comm=comm+0.15*800; comm=comm+0.20*(sales-1800.0);
}
```

```c
else if(sales > 1000)

{

comm =0.10*1000; comm=comm+0.15*(sales-1000);

}

else

comm=0.10*sales;

printf("the commission is=%f\n",comm);

}

else

printf(" Commission cannot be calculated \n");

return 0;


}
```

TERMWORK- 5 (Equivalence Test Case for Commission Problem)

```c
#include<stdio.h>

int main()

{

int locks, stocks, barrels, tlocks, tstocks, tbarrels;

float lprice, sprice, bprice, sales, comm;

int c1,c2,c3,temp; lprice=45.0; sprice=30.0; bprice=25.0;

tlocks=0; tstocks=0; tbarrels=0;

printf("\nenter the number of locks and to exit the loop enter -1 for locks\n");

scanf("%d",&locks);

while(locks!=-1)

{

c1=(locks<=0||locks>70);

printf("enter the number of stocks and barrels\n");

scanf("%d%d",&stocks,&barrels);

c2=(stocks<=0||stocks>80); c3=(barrels<=0||barrels>90);

if(c1)

printf("value of locks not in the range 1..70 ");

else

{

temp=tlocks+locks; if(temp>70)

printf("new total locks =%d not in the range 1..70 so old ",temp);

else

tlocks=temp;

}

printf("total locks = %d\n",tlocks);

if(c2)

printf("value of stocks not in the range 1..80 ");

else

{
```

```c
temp=tstocks+stocks; if(temp>80)

printf("new total stocks =%d not in the range 1..80 so old  ",temp);

else

    tstocks=temp;

}

printf("total stocks=%d\n",tstocks);

if(c3)

printf("value of barrels not in the range 1..90 ");

else

{

temp=tbarrels+barrels; if(temp>90)

printf("new total barrels =%d not in the range 1..90 so old ",temp); else

tbarrels=temp;

}

printf("total barrel=%d",tbarrels);

printf("\nenter the number of locks and to exit the loop enter -1 for locks\n");

scanf("%d",&locks);

}

printf("\ntotal locks = %d\ntotal stocks =%d\ntotal barrels =%d\n",tlocks,tstocks,tbarrels);

sales = lprice*tlocks+sprice*tstocks+bprice*tbarrels;

printf("\nthe total sales=%f\n",sales);

if(tlocks>0&&tstocks>0&&tbarrels>0)

{

if(sales > 1800.0)

{

comm=0.10*1000.0;

comm=comm+0.15*800; comm=comm+0.20*(sales-1800.0);

}

else if(sales > 1000)

{

comm =0.10*1000; comm=comm+0.15*(sales-1000);
```

```c
}
else
comm=0.10*sales;
printf("the commission is=%f\n",comm);
}
else
printf(" Commission cannot be calculated \n");
return 0;
}
```

TERMWORK- 6 (Decision Test Case for Commission Problem)

```c
#include<stdio.h>

int main()

{

int locks, stocks, barrels, tlocks, tstocks, tbarrels;

float lprice, sprice, bprice, sales, comm;

int c1,c2,c3,temp; lprice=45.0; sprice=30.0; bprice=25.0;

tlocks=0; tstocks=0; tbarrels=0;

printf("\nenter the number of locks and to exit the loop enter -1 for locks\n");

scanf("%d",&locks);

while(locks!=-1)

{

c1=(locks<=0||locks>70);

printf("enter the number of stocks and barrels\n");

scanf("%d%d",&stocks,&barrels); c2=(stocks<=0||stocks>80);

c3=(barrels<=0||barrels>90);

if(c1)

printf("value of locks not in the range 1..70 ");

else

{

temp=tlocks+locks; if(temp>70)

printf("new total locks =%d not in the range 1..70 so old ",temp);

else

tlocks=temp;

}

printf("total locks = %d\n",tlocks);

if(c2)

printf("value of stocks not in the range 1..80 ");

else

{
```

```c
temp=tstocks+stocks; if(temp>80)

printf("new total stocks =%d not in the range 1..80 so old  ",temp);

else

    tstocks=temp;

}

printf("total stocks=%d\n",tstocks);

if(c3)

printf("value of barrels not in the range 1..90 ");

else

{

temp=tbarrels+barrels; if(temp>90)

printf("new total barrels =%d not in the range 1..90 so old ",temp);

else

tbarrels=temp;

}

printf("total barrel=%d",tbarrels);

printf("\nenter the number of locks and to exit the loop enter -1 for locks\n");

scanf("%d",&locks);

}

printf("\ntotal locks = %d\ntotal stocks =%d\ntotal barrels =%d\n",tlocks,tstocks,tbarrels);

sales = lprice*tlocks+sprice*tstocks+bprice*tbarrels;

printf("\nthe total sales=%f\n",sales);

if(tlocks>0&&tstocks>0&&tbarrels>0)

{

if(sales > 1800.0)

{

comm=0.10*1000.0;

comm=comm+0.15*800; comm=comm+0.20*(sales-1800.0);

}

else if(sales > 1000)

{
```

```c
comm =0.10*1000; comm=comm+0.15*(sales-1000);
}
else
comm=0.10*sales;
printf("the commission is=%f\n",comm);
}
else
printf(" Commission cannot be calculated \n");
return 0;


}
```

TERMWORK- 7 (Binary Search - Path Testing)

```c
#include<stdio.h>
int binsrc(int x[],int low,int high,int key)
{
int mid; while(low<=high)
{
mid=(low+high)/2; if(key==x[mid])
return mid; if(key<x[mid])
high=mid-1;
else
low=mid+1;   }
return -1;     }
int main()
{    int x[20],key,i,n,succ; printf("Enter the n value");
scanf("%d",&n);
if(n>0)
{   printf("enter the elements in ascending order\n");
for(i=0;i<n;i++)
scanf("%d",&x[i]);
printf("enter the key element to be searched\n");
scanf("%d",&key);
succ=binsrc(x,0,n-1,key); if(succ>=0)
printf("Element found in position = %d\n",succ+1);
else
printf("Element not found \n");
}
else
printf("Number of element should be greater than zero\n");
return 0;
}
```

TERMWORK- 8 (Quick Sort-Path Testing)

```c
void quick(int a[], int low, int high) {
 if (low < high) {
 int pivot = a[high], i = low - 1, j, temp;
 for (j = low; j < high; j++)
 if (a[j] < pivot) {
 temp = a[++i]; a[i] = a[j]; a[j] = temp;
 }
 temp = a[i+1]; a[i+1] = a[high]; a[high] = temp;
 int pi = i + 1;
 quick(a, low, pi - 1);
 quick(a, pi + 1, high);
 }
}
int main() {
 int n, i;
 printf("Enter size: ");
 scanf("%d", &n);
 int a[n];
 printf("Enter elements:\n");
 for(i = 0; i < n; i++) scanf("%d", &a[i]);
 quick(a, 0, n - 1);
 printf("Sorted: ");
 for(i = 0; i < n; i++) printf("%d ", a[i]);
}
```

TERMWORK-9 and 10 (Next date program)

```c
#include <stdio.h>
int isLeap(int y){
 return (y%400==0) || (y%4==0 && y%100!=0);
}
int daysInMonth(int m, int y){
 if(m == 2) return isLeap(y) ? 29 : 28;
 if(m==4 || m==6 || m==9 || m==11) return 30;
 return 31;    }
int main(){
 int d, m, y;
 printf("Enter day month year: ");
 scanf("%d %d %d", &d, &m, &y);
 if(m<1 || m>12 || y<1811 || y>2012){
 printf("Invalid date");
 return 0;
 }
 int dim = daysInMonth(m, y);
 if(d<1 || d>dim){
 printf("Invalid date");
 return 0;
 }
 if(d < dim) d++;
 else{
 d = 1;
 if(m == 12){ m = 1; y++; }
 else m++;
 }
 printf("Next Date: %02d-%02d-%04d", d, m, y);
 return 0;
}
```