**TASK-11**

Hotel Occupancy

**EXPLANATION:**

Write a program that calculates the occupancy rate for a hotel. The program should start by asking the user how many floors the hotel has. A loop should then iterate one for each floor. In each iteration, the loop should ask the user for the number of rooms on the floor and how many of them are occupied. After all the iterations, the program should display how many rooms the hotel has and the percentage of rooms that are occupied.

Input validation:

the program should not accept the number less than 1 for the number of floors and do not accept a number less than 10 for number of rooms on each floor.

**INPUT:**

#include <iostream>

#include <stdlib.h>

#include <windows.h>

#include <conio.h>

using namespace std ;

void cin\_clear ()

{

Sleep (2000) ;

system("CLS") ;

cin.clear () ;

cin.ignore ( INT\_MAX , '\n' ) ;

}

int continuationLoop ()

{

bool check = true , flag = true ;

char option ;

while ( check )

{

system("CLS") ;

cout << "Do you want to continue (y/n) : " ;

option = getch() ;

if ( option == 'y' )

{

system ("CLS") ;

return 1 ;

}

else if ( option == 'n' )

{

return 0 ;

}

}

}

int main ()

{

bool flag = true ;

while ( flag )

{

int floors , no\_of\_rooms [30] , occupied [30] , total\_rooms = 0 , total\_occupied = 0 , a , b ;

cout << "Please enter the floors of the hotel : " ;

while ( ! ( cin >> floors ) || floors < 1 )

{

cout << "Floors cannot be less than 1 ! " ;

cin\_clear () ;

cout << "Please enter the floors of the hotel : " ;

}

int x = 0 ;

for ( int i = 1 ; i <= floors ; ++i )

{

cout << "\t\t\t\t\tFLOOR:" << i << endl << endl ;

cout << "Please enter the total number of rooms : " ;

while ( ! ( cin >> a ) || a < 10 )

{

cout << "Rooms cannot be less than 10 or a character !" ;

cin\_clear () ;

cout << "Please enter the total number of rooms : " ;

}

no\_of\_rooms [x] = a ;

cout << "Please enter the number of rooms occupied on the floor : " ;

while ( ! ( cin >> b ) || b < 0 )

{

cout << "Occupied rooms cannot be less than 0 or a character !" ;

cin\_clear () ;

cout << "Please enter the number of rooms occupied on the floor : " ;

}

occupied [x] = b ;

system ( "CLS" ) ;

x++ ;

}

cout << "Total rooms are : " ;

for ( int i = 0 ; i < floors ; ++i )

{

total\_rooms = no\_of\_rooms[i] + total\_rooms ;

total\_occupied = occupied [i] + total\_occupied ;

}

cout << total\_occupied << endl ;

cout << "Percentage occupancy is : " << ( (float) total\_occupied / total\_rooms) \* 100.0 << " % " ;

system ("pause ") ;

system ("cls") ;

flag = continuationLoop () ;

}

}

**OUTPUT:**





