**CIS3100**

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**ASSIGNMENT #6**

**05/17/2016**

**INPUT**

// Kary Huang Assignment #6

#include <iostream>

#include <iomanip>

using namespace std;

class HotelRoom

{

private:

int roomnum, capacity, occupancy;

float roomrate;

public:

HotelRoom();

HotelRoom(int, int, float);

~HotelRoom(){ cout << "\nTHE END" << endl; }; //destructor

void setOccupancy(int); //mutator

int getRoomnum(); //accessor

int getCapacity();

int getOccupancy();

float getRoomrate();

void print(); //print function

void changeRate(float);

void changeStatus(int);

};

int main()

{

int guests;

HotelRoom room1(123, 4, 150.00); //invoke constructor version 2

cout << "Hotel room number " << room1.getRoomnum() << " has a capacity of "

<< room1.getCapacity() << " and " << room1.getOccupancy() << " guests. The room rate is "

<< fixed << setprecision(2) << room1.getRoomrate() << "." << endl;

//another way to print to standard output besides using the print function

cout << "Please enter number of guests: ";

cin >> guests;

room1.setOccupancy(guests); //assigns number of guests as occupancy

room1.changeStatus(guests);

cout << "You entered: " << room1.getOccupancy() << " guests." << endl;

while (guests > 4) //will not continue unless number of guests is within capacity limit

{

cout << "The number of guests has exceeded the room capacity. Please re-enter number of guests: ";

cin >> guests;

room1.setOccupancy(guests);

room1.changeStatus(guests);

cout << "You entered: " << room1.getOccupancy() << " guests." << endl;

}

room1.print();

cout << "Did the guests check out? (Y or N) ";

char answer;

cin >> answer;

while (answer != 'Y')

{

cout << "Did the guests check out? (Y or N) ";

cin >> answer;

}

if (answer == 'Y') //only changes the status of the room when user confirms the check out

room1.changeStatus(0); //changes the occupancy to 0

room1.print();

cout << "\nRoom Rate Update:" << endl;

room1.changeRate(175.00); //changes the room rate to 175.00

room1.print();

cout << "Please enter number of guests: ";

cin >> guests;

room1.setOccupancy(guests);

room1.changeStatus(guests);

cout << "You entered: " << room1.getOccupancy() << " guests." << endl;

while (guests > 4) //repeat the above process of asking the user to confirm number of guests

{

cout << "The number of guests has exceeded the room capacity. Please re-enter number of guests: ";

cin >> guests;

room1.setOccupancy(guests);

room1.changeStatus(guests);

cout << "You entered: " << room1.getOccupancy() << " guests." << endl;

}

room1.print();

return 0;

}

HotelRoom::HotelRoom() //constructor version 1 - default values

{

roomnum = 0;

capacity = 0;

occupancy = 0;

roomrate = 89.00;

}

HotelRoom::HotelRoom(int a, int b, float c) //constructor version 2 - unknown values

{

roomnum = a;

capacity = b;

occupancy = 0;

roomrate = c;

}

void HotelRoom::setOccupancy(int occ)

{

occupancy = occ;

}

int HotelRoom::getRoomnum()

{

return roomnum;

}

int HotelRoom::getCapacity()

{

return capacity;

}

int HotelRoom::getOccupancy()

{

return occupancy;

}

float HotelRoom::getRoomrate()

{

return roomrate;

}

void HotelRoom::print()

{

cout << "Hotel room number " << roomnum << " has a capacity of "

<< capacity << " and " << occupancy << " guests. The room rate is "

<< fixed << setprecision(2) << roomrate << "." << endl;

}

void HotelRoom::changeRate(float new\_rate)

{

roomrate = new\_rate;

}

void HotelRoom::changeStatus(int new\_occupancy) //leaves occupancy as it is or assigns -1 to it if exceeds capacity

{

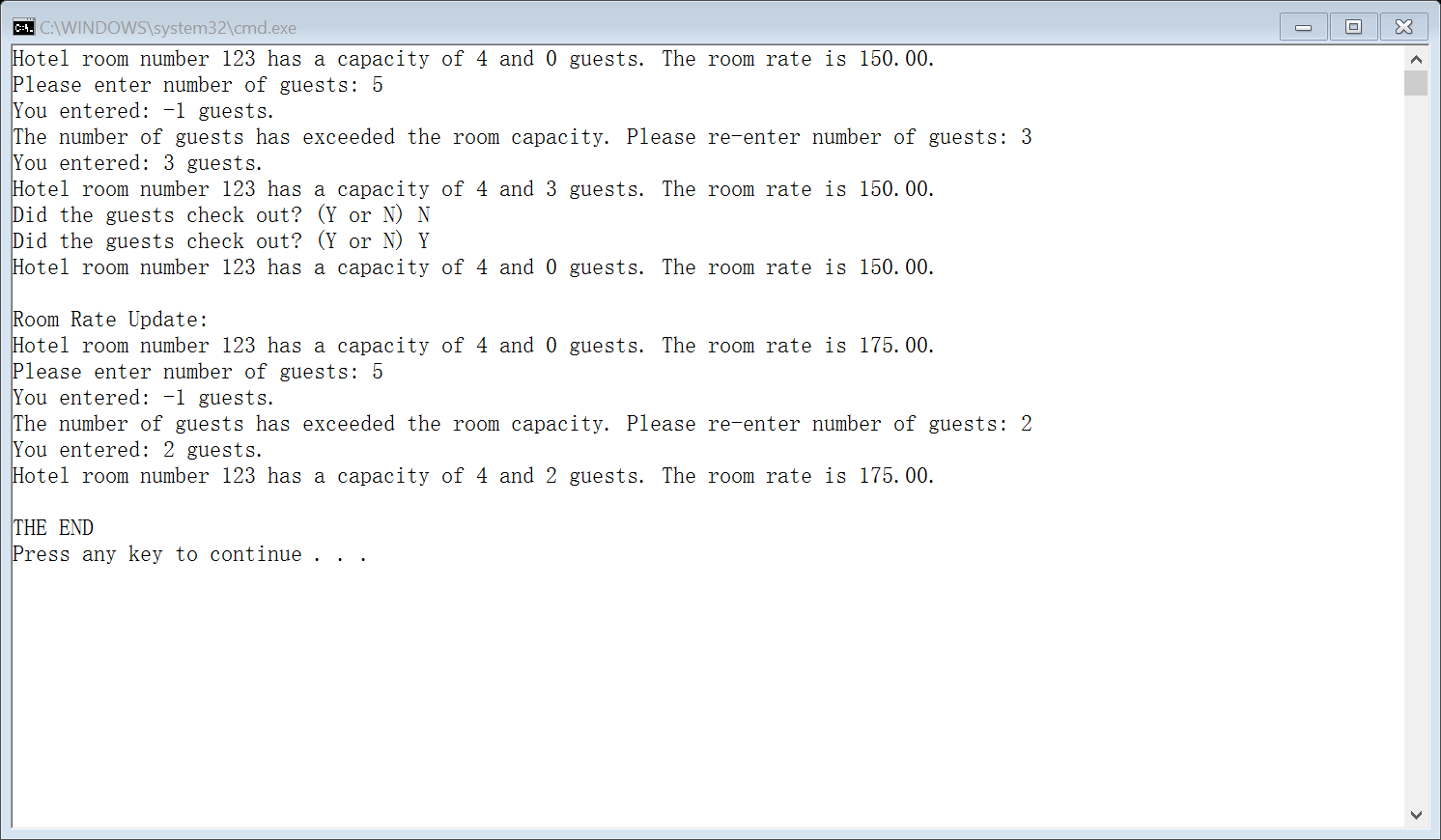
if (occupancy > capacity)

occupancy = -1;

else occupancy = new\_occupancy;

}

**OUTPUT**

****