Analysis of the problem

1. To run, the program only needs the input from the user of whether they wish to select a first-class ticket, or an economy ticket. If either of those sections are full, then the program needs to know if the user wishes to select the alternative ticket.
2. The only data available is the number of seats on the plane, 10 (1-5 are first class, 6-10 are economy) and the user will then provide if they wish to reserve a first-class ticket or an economy ticket.
3. The output for the program will be the boarding pass, which indicates if the reserved seat is first class or economy, and when sections or the whole plane are full.

The algorithm

There’s a couple of different things going on here. A 1 dimensional array is created and all elements are set to zero to indicate the seat is open. When assigning a seat, the program checks the elements in sequential order in the desired half of the array to determine if the seat has been assigned or not. Once an open seat is found, it stops searching the array and prints the boarding pass while passing number of the checked element so as to provide the seat number. The program also checks the entire array to determine if entire sections are full so as to not try and overbook seats.

int i;

bool search = true;

//firstclass

if (firstOrEcon == 1)

{

for (i = 0;search == true && i < 5; i++)

{

if (seatArray[i] == 0)

{

seatArray[i] = 1;

search = false;

}

}//end for

}

The two halves of the array are searched separately to more easily differentiate between first-class and economy and which sections are full.

User Documentation.

To run the submitted project, you will first need to extract the contents of the submitted archive by right-clicking on the file, select extract all, and then select the extract button. Then you will need to open your copy of visual studio, go to file, open, and then select project/solution. Locate the folder that you just extracted, open the mod2\_3 folder and open mod2\_3.sln file. Once open go to the solution explorer, click on the triangle to the left of source files, and select mod2\_3.c. Once you see the code on the screen, hold the ctrl button down on the keyboard and press F5. This will launch the application. Follow the on screen prompts.