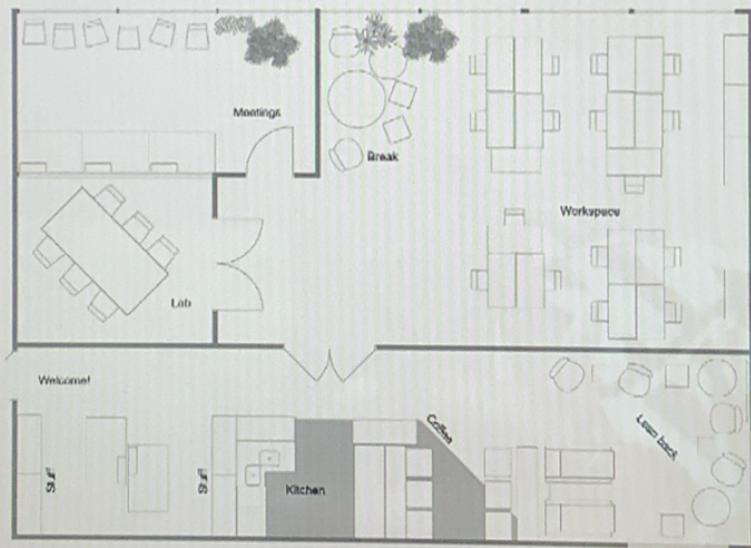


## ① Project Problem Statement

### Problem Title : Room Allotment and booking system using advance DSA Concepts and Multiple parameters IS C++

A software developer is someone with multiple horizons of skills and ideas , be it Devops, Debugging or programming . You work at a software company IS Robotics , you work as a software engineer, you need to work one of the mock CLI(Command Line Version ) Of an application that is going to make a room allotment system .



Problem Title : Room Allotment and booking system using advance DSA Concepts and Multiple parameters IS C++

- The problem statement talks about a particular area.
- simply CLI (command line version) version means that it is going to be a c++ application.
- CLI version defines that the application is not going to be hosted with a GUI and it is not going to have a graphical user interface and is going to be a simple command line where you can just type in your commands and you should be good to go.

Bare Bone System has to be made which is capable of booking a room and also able to check for the room status as well. The room spaces are made to be customisable and can be chosen according to needs and purpose

Required Features needed in the system

#### Scheduling capabilities

- 1) Book a room
- 2) Set the host
- 3) Set the start time
- 4) Set the end time
- 5) Set the chair booking capability
- 6) Define the room number

} Parameters which we want.

- The software should be powerful enough to handle all the above parameters.
- You have as many possibilities to add those parameters to the system.
- This known as "zoom room" in the industry or "room allocation system".

## (2) Project Guidance Video

- A CLI is essentially a terminal based window where the only option that you have is to type text.

```

Advance Room Booking and allotment system Internship Studio (1)
Advance Room Booking and allotment system Internship Studio (1) No Selection

1 #include <conio.h>
2
3 #include <cstdio>
4
5 #include <iostream>
6
7 #include <string.h>
8
9 #include <cstdlib>
10
11 using namespace std;
12
13 static int p = 0;
14
15 class a
16 {
17
18     char room[5], host[10], start[5], send[5], from[10], to[10], chair[8][4][10];
19
20 public:
21
22     void install();
23     void allotment();
24     void empty();
25     void show();
26     void avail();
27     void position(int i);
28
29 }
30
31 room[10];
32
33 void vline(char ch)
34 {
35     for (int i=80;i>0;i--)
36         cout<<ch;
37 }
38
39 void a::install()
40 {
41
42     cout<<"Enter Room no: ";
43     cin>>room[p].room;
44     cout<<"\nEnter Host's name: ";
45     cin>>room[p].host;
46
47 }
48
49 void a::allotment()
50 {
51
52     cout<<"\nStart times: ";
53     cin>>room[p].start;
54
55     cout<<"\nSession Ends at: ";
56
57     cin>>room[p].send;
58
59     cout<<"\nFrom: \t\t\t";
60     cin>>room[p].from;
61
62     cout<<"\nTo: \t\t\t";
63     cin>>room[p].to;
64
65     room[p].empty();
66
67     p++;
68
69 }
70
71
72
73
74
75
76
77
78
79
80
81 }
82

```

```
83 void a::allotment()
84 {
85
86     int chair;
87
88     char number[5];
89
90
91     top:
92
93     cout<<"Room no: ";
94
95     cin>>number;
96
97     int n;
98
99     for(n=0;n<=p;n++)
100    {
101
102        if(strcmp(room[n].roomn, number)==0)
103            break;
104
105    }
106
107
108    while(n<=p)
109    {
110
111        cout<<"\nChair Number: ";
112
113        cin>>chair;
114
115        if(chair>32)
116
117        {
118
119            cout<<"\nThere are only 32 Chair available in this Room.";
120
121        }
122
123        else
124
125        {
126
127            if (strcmp(room[n].chair[chair/4][(chair%4)-1], "Empty")==0)
```

```
133 cout<<"Enter passenger's name: ";
134 cin>>room[n].chair[chair/4][(chair%4)-1];
135
136 break;
137 }
138
139 }
140
141 else
142 {
143 cout<<"The Chair no. is already reserved.\n";
144
145 }
146
147 }
148
149 if(np)
150 {
151
152 cout<<"Enter correct Room no.\n";
153 goto top;
154
155 }
156
157 }
158
159 }
160
161
162 void a::empty()
163 {
164
165 for(int i=0; i<8;i++)
166 {
167
168 for(int j=0;j<4;j++)
169 {
170
171
172
173 strcpy(room[p].chair[i][j], "Empty");
174
175
176
177
178
179
180
181
182 void a::show()
183 {
184
185 int n;
186 char number[5];
187
188 cout<<"Enter Room no: ";
189
190 ...

```

```
192     cin>>number;
193
194     for(n=0;n<=p;n++)
195     {
196
197         if(strcmp(zoom[n].zoomn, number)==0)
198             break;
199
200     }
201
202
203     while(n<=p)
204     {
205
206         vline('*');
207
208         cout<<"Room no: \t"<<zoom[n].zoomn
209
210         <<"\nHost: \t"<<zoom[n].host<<"\t\tStart time: \t"
211
212         <<zoom[n].start<<"\t\tEnd time:"<<zoom[n].send
213
214         <<"\nFrom: \t\t"<<zoom[n].from<<"\t\tTo: \t\t"<<
215
216         zoom[n].to<<"\n";
217
218         vline('*');
219
220 }
```

```
221 room[0].position(n);
222
223 int s=1;
224
225 for (int i=0; i<8; i++)
226 {
227
228     for(int j=0;j<4;j++)
229     {
230
231         s++;
232
233         if(strncmp(room[n].chair[i][j], "Empty")!=0)
234
235             cout<<"\nThe Chair no: "<<(a-1)<<" is reserved for "<<room[n].chair[i][j]<<".";
236
237     }
238
239 }
240
241 }
242
243 break;
244
245 }
246
247 if(n>p)
248
249     cout<<"Enter correct Room no: ";
250
251     I
252 }
253
254 void s::position(int l)
255
256 {
257
258     int s=0;p=0;
259
260     for (int i = 0; i < 8; i++)
261
262     {
263
264         cout<<"\n";
265
266         for (int j = 0; j < 4; j++)
267
268         {
269
270             cout<<room[n].chair[i][j];
271
272             if(s==l)
273                 cout<<"*";
274
275             s++;
276
277         }
278
279     }
280
281 }
```

```

269
270     s++;
271
272     if(strcmp(room[1].chair[i][j], "Empty") == 0)
273     {
274
275         cout.width(5);
276
277         cout.fill(' ');
278
279         cout << s << ".";
280
281         cout.width(10);
282
283         cout.fill(' ');
284
285         cout << room[1].chair[i][j];
286
287         p++;
288     }
289
290 } else
291 {
292
293     cout.width(5);
294
295     cout.fill(' ');
296
297     cout << s << ".";
298
299     cout.width(10);
300
301     cout.fill(' ');
302
303     cout << room[1].chair[i][j];
304
305 }
```

↓

```

305     cout << room[1].chair[i][j];
306
307     }
308
309     }
310
311     }
312
313
314     cout << "\n\nThere are " << p << " Chairs empty in Room No: " << room[1].roomno;
315
316 }
317
318 void a::avail()
319 {
320
321     for(int n=0;n<p;n++)
322     {
323
324         vline('*');
325
326         cout << "Room no: \t" << room[n].roomno << "\nHost: \t" << room[n].host
327
328         << "\t\tStart time: \t" << room[n].start << "\t\tEnd Time: \t"
329
330         << room[n].send << "\nFrom: \t\tFrom: \t\tTo: \t\t"
331
332         << room[n].to << "\n";
333
334         vline('_');
335
336         vline('_');
337
338         vline('_');
339
340     }
341
342 }
343
344 int main()
345 {
346
347     system("cls");
348
349     int w;
350
351     while(1)
352 }
```

⑦

⑧

⑨

```

354 {
355
356     //system("cls");
357
358     cout << "\n\n\n\n";
359
360     cout << "\t\t\t1. Install\n\t\t\t2. Reservation\n\t\t\t3. Show\n\t\t\t4. Rooms Available.\n\t\t\t5. Exit";
361
362
363
364
365
366
367
368
369
370
371     cout << "\n\t\t\tEnter your choice:-> ";
372
373     cin >> w;
374
375     switch(w)
376     {
377
378         case 1: room[p].install();
379
380             break;
381
382         case 2: room[p].allotment();
383
384             break;
385
386         case 3: room[0].show();
387
388             break;
389
390         case 4: room[0].avail();
391
392             break;
393
394         case 5: exit(0);
395
396
397     }
398
399 }
400
401 return 0;
402
403 }
```

1) Book a room

2) Set the host

3) Set the start time

4) Set the end time

5) Set the chair booking capability

6) Define the room number