HOTEL BOOKING MANAGEMENT SYSTEM

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BONAFIDE CERTIFICATE

Certified that this project report entitled "**HOTEL BOOKING MANAGEMENT SYSTEM"** is a bonafide work of **APOORV KUMAR SINHA – 20BCE1565, SHAHEEN SUBAH – 20BCE1567 and JISHNURAJ P – 20BCE1119** who carried out the Project work under my supervision and guidance for **CSE2006 – MICROPROCESSORS AND INTERFACING.**

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ABSTRACT

Previously, during our time as students in other courses, we were able to design a Hotel Booking Management System whose purpose was to book available rooms and cancel them if that happens. However, due to certain limitations of the compiler/coding language, we were unable to do the following:

- Create an interactive interface.
- Compute the cost of available ticketing system implemented in the C++ code.

The reasons for that is two-fold but without going over the intricacies, we found that computing it smoothly was nigh-on impossible. However, with the various types of interrupts and system calls available in the 8086 microprocessor, we realised that with a bit of intuitive and ingenious work, this missing piece of the jigsaw of our original project can be executed properly.

We realised that even assembly language has limitations but the various interrupts and their various modes enabled greater liberty in how we can calculate and book hotels. This project is largely focussed on *displaying* the results for the convenience of both the user and customer, along with giving a greater degree of control to the person with administrator rights. With this, we hope to enable greater visibility to both the user and customer.

Where C++ lacked, ASM shines. The code in particular doesn't exactly calculate what is happening but rather prints the data using pre-processed data for each value that exists. This pre-processing allows these values to be printed while the registers all hold a different purpose altogether, depending on what we want it to execute. It also features instructions that aim to make the interface more visually appealing as well as an attempt at a video mode.

This booking system, however, works as a master of sorts. Its entire purpose is to serve as a sort of super-controller of all functionalities of a franchise. This it does by logging in several bookings and accomplishing the same, thereby increasing it scalability in several other functions. This also gives it a greater chance of expansion for the same.

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We also take this opportunity to thank all the faculty of the School for their support and their wisdom imparted to us throughout the course.

We thank our parents, family, and friends for bearing with us throughout the course of our project and for the opportunity they provided us in undergoing this course in such a prestigious institution.

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1. INTRODUCTION

1.1 OBJECTIVES AND GOALS

Thanks to rapid advancements in network technology such as the internet and electronic commerce, the scope of computer applications in the hospitality industry is expanding, and hotel booking management systems are maturing. The design and implementation of hotel booking management systems, as well as add-on services, are the subject of this study.

The purpose of this system is to create a hotel booking management system that will be utilised for invoicing by the master receptionist.

1.2 APPLICATION

Hotel Reservation System is a software that allows the master receptionists to calculate the total amount to be paid, and select room types and other services in one place.

1.3 FEATURES

This application allows the user to check the total amount of a service from a particular category for the quantity entered.

The categories available for the customers are:
1. Room
2. Food
3. Facilities
4. Miscellaneous
5. Functions

2. SOFTWARE

1.1   CODING

<u>Algorithm:</u>

Code starts at the data segment where we initialise the various messages we will be using to print on our screen.

The scope then moves towards the code where we change the colour of the font and background using INT 10H. (This creates a blue screen)

We move to the Main Program (under the scope of TOP) now where we initialise the data segment first. For the next many lines, we draw the interface on interface of the monitor.

Using INT 21H, option 1, we ask for input. Depending on the answer, we move to the concerned loop using the JE function.

Since we input the code as an ASCII character through the keyboard, we need to convert it so that the compiler can interpret it. This we do by subtracting 48 from it (since 0 has 48 ASCII value).

The input taken determines which loop is chosen and we enter the scope of the same.

Again, printing action happens, similar to (iii) step mentioned previously.

Input is taken similarly, essentially created a nested loop where one selection determines the first choice and the other determines the choice within the choice. There are three separate ways of handling this:

- o Creating a common function which prints everything regardless, largely used for functions that do not end with a zero. (Function 5)
- o Creating the print function by creating a different scope for each item, not recommended due to effort constraints. (Function 4)
- o Creating a scope for each of the monetary values of the product and jumping to print the zero after normal calculation. (Function 1-3)

After each selection, we will be asking for booking such that multiple bookings can be seconded at the same time. This input must be taken before

the input since this is the **only** place where we perform any sort of mathematic operation.

To multiply the value of number of bookings, we use the AAM command since it is ASCII adjust for Multiplication, i.e, used for multiplying the two ASCII digits. The process occurs by masking the upper 4 bits of each digit, leaving an unpacked BCD in each of the following. The multiplication occurs through the BL Register which stores the pre-fed values in the scope of the loop.

To ensure that they are returned to their original ASCII state since we will be printing them using INT 21H, option 2 which prints a string where the value is stored in the CX register. (One half in the CH, one half in the CL).

The DX register holds other things such as the mnemonic to indicate price. Then the user gets the choice of whether they want to continue (return to scope of TOP) or whether they are done with the processing (move to scope of EXIT).

Rationale of Printing Procedure:

The main reason for picking the loop with the monetary values was that enabled us to do less coding than individually coding something for each memory. Also, since we can manually print 0 using DL and INT 21H, option 2, the multiplication procedure is also made much easier as only BL holds the true value, i.e, 2 for twenty, 3 for thirty and so on. This creates easy multiplication opportunities where the correct values are stored in the CX register (CH and CL in actuality).

Snapshots of Code:

```
0551  ADD CL,48
0552
0553
0554  LEA DX,MSG69
0555  MOV AH,9
0556  INT 21H
0557
0558  MOV AH,2
0559  MOV DL,CH
0560  INT 21H
0561
0562
0563  MOV DL,CL
0564  INT 21H
0565
0566  MOV DL,'0'
0567  INT 21H
0568
0569  ;FOR /- PRINT
0570  MOV DL,47
0571  INT 21H
0572  MOV DL,45
0573  INT 21H
0574
0575  ;GO BACK TO MAIN MENU
0576
0577  LEA DX,MSG70
0578  MOV AH,9
0579  INT 21H
0580
0581  LEA DX,MSG71
0582  MOV AH,9
0583  INT 21H
0584
0585  LEA DX,MSG2    ;MAIN MENU
0586  MOV AH,9
0587  INT 21H
0588
0589  MOV AH,1
0590  INT 21H
0591  SUB AL,48
0592
0593  CMP AL,1
0594  JE TOP
0595
0596  JMP EXIT
0597
0598  ROOM:              ;ROOM
0599
0600
```

```
0601  LEA DX,MSG8
0602  MOV AH,9
0603  INT 21H
0604
0605
0606
0607  LEA DX,SEJ  ;NEWLINE
0608  MOV AH,9
0609  INT 21H
0610
0611  LEA DX,MR5
0612  MOV AH,9
0613  INT 21H
0614
0615
0616  LEA DX,MR5
0617  MOV AH,9
0618  INT 21H
0619
0620  LEA DX,MR4            ;STAR BORDER
0621  MOV AH,9
0622  INT 21H
0623
0624
0625
0626
0627  LEA DX,MSG25      ;1th
0628  MOV AH,9
0629  INT 21H
0630
0631  LEA DX,MSG26      ;2th
0632  MOV AH,9
0633  INT 21H
0634
0635  LEA DX,MSG27      ;3rd
0636  MOV AH,9
0637  INT 21H
0638
0639  LEA DX,MSG28      ;4th
0640  MOV AH,9
0641  INT 21H
0642
0643  LEA DX,MSG29      ;5th
0644  MOV AH,9
0645  INT 21H
0646
0647
0648  LEA DX,MSG30      ;6th
0649  MOV AH,9
0650  INT 21H
```

```
0651  LEA DX,MSG31      ;7th
0652  MOV AH,9
0653  INT 21H
0654
0655
0656  LEA DX,MSG32      ;8th
0657  MOV AH,9
0658  INT 21H
0659
0660  LEA DX,MSG33      ;9th
0661  MOV AH,9
0662  INT 21H
0663
0664
0665  LEA DX,MR4
0666  MOV AH,9
0667  INT 21H
0668  LEA DX,MR5            ;STAR BORDER
0669  MOV AH,9
0670  INT 21H
0671  INT 21H
0672
0673
0674  LEA DX,MR5
0675  MOV AH,9
0676  INT 21H
0677
0678
0679  LEA DX,MSG67
0680  MOV AH,9
0681  INT 21H
0682
0683
0684  MOV AH,1
0685  INT 21H
0686  MOV BL,AL
0687  SUB BL,48
0688
0689  CMP BL,1
0690  JE NINETY
0691
0692  CMP BL,2
0693  JE NINETY
0694
0695  CMP BL,3
0696  JE THIRTY
0697
0698  CMP BL,4
0699  JE NINETY
0700
```

```
0701  CMP BL,5
0702  JE NINETY
0703
0704  CMP BL,6
0705  JE TEN
0706
0707  CMP BL,7
0708  JE THIRTY
0709
0710  CMP BL,8
0711  JE THIRTY
0712
0713  CMP BL,9
0714  JE THIRTY
0715
0716  JMP INVALID
0717
0718  TEN:
0719  MOV BL,1
0720  LEA DX,MSG68
0721  MOV AH,9
0722  INT 21H
0723
0724
0725
0726  MOV AH,1
0727  INT 21H
0728  SUB AL,48
0729
0730
0731
0732  MUL BL
0733  AAM
0734
0735  MOV CX,AX
0736  ADD CH,48
0737  ADD CL,48
0738
0739
0740  LEA DX,MSG69
0741  MOV AH,9
0742  INT 21H
0743
0744  MOV AH,2
0745  MOV DL,CH
0746  INT 21H
0747
0748
0749  MOV DL,CL
0750  INT 21H
```

```
0751  MOV DL,'0'
0752  INT 21H
0753
0754
0755  ;FOR /- PRINT
0756  MOV DL,47
0757  INT 21H
0758  MOV DL,45
0759  INT 21H
0760
0761  ;GO BACK TO MAIN MENU
0762
0763  LEA DX,MSG70
0764  MOV AH,9
0765  INT 21H
0766
0767  LEA DX,MSG71
0768  MOV AH,9
0769  INT 21H
0770
0771  LEA DX,MSG2
0772  MOV AH,9
0773  INT 21H
0774
0775  MOV AH,1
0776  INT 21H
0777  SUB AL,48
0778
0779
0780
0781  CMP AL,1
0782  JE TOP
0783
0784  JMP EXIT
0785
0786
0787
0788  TWENTY:
0789
0790  MOV BL,2
0791  LEA DX,MSG68
0792  MOV AH,9
0793  INT 21H
0794
0795
0796
0797  MOV AH,1
0798  INT 21H
0799  SUB AL,48
0800
```

```
0801
0802  MUL BL
0803  AAM
0804
0805
0806  MOV CX,AX
0807  ADD CH,48
0808  ADD CL,48
0809
0810  LEA DX,MSG69
0811  MOV AH,9
0812  INT 21H
0813
0814
0815  MOV AH,2
0816  MOV DL,CH
0817  INT 21H
0818
0819
0820  MOV DL,CL
0821  INT 21H
0822
0823  MOV DL,'0'
0824  INT 21H
0825
0826  ;FOR /- PRINT
0827  MOV DL,47
0828  INT 21H
0829  MOV DL,45
0830  INT 21H
0831
0832  ;GO BACK TO MAIN MENU
0833  LEA DX,MSG70
0834  MOV AH,9
0835  INT 21H
0836
0837  LEA DX,MSG71
0838  MOV AH,9
0839  INT 21H
0840
0841  LEA DX,MSG2
0842  MOV AH,9
0843  INT 21H
0844
0845  MOV AH,1
0846  INT 21H
0847  SUB AL,48
0848
0849
0850
```

```
0851  CMP AL,1
0852  JE TOP
0853
0854  JMP EXIT
0855
0856  THIRTY:
0857
0858  MOV BL,3
0859  LEA DX,MSG68
0860  MOV AH,9
0861  INT 21H
0862
0863
0864  MOV AH,1
0865  INT 21H
0866  SUB AL,48
0867
0868
0869
0870
0871  MUL BL
0872  AAM
0873
0874  MOV CX,AX
0875  ADD CH,48
0876  ADD CL,48
0877
0878
0879  LEA DX,MSG69
0880  MOV AH,9
0881  INT 21H
0882
0883  MOV AH,2
0884  MOV DL,CH
0885  INT 21H
0886
0887
0888  MOV DL,CL
0889  INT 21H
0890
0891  MOV DL,'0'
0892  INT 21H
0893
0894  ;FOR /- PRINT
0895  MOV DL,47
0896  INT 21H
0897  MOV DL,45
0898  INT 21H
0899
0900  ;GO BACK TO MAIN MENU
```

```
0901
0902  LEA DX,MSG70
0903  MOV AH,9
0904  INT 21H
0905
0906  LEA DX,MSG71
0907  MOV AH,9
0908  INT 21H
0909
0910  LEA DX,MSG2
0911  MOV AH,9
0912  INT 21H
0913
0914  MOV AH,1
0915  INT 21H
0916  SUB AL,48
0917
0918
0919
0920  CMP AL,1
0921  JE TOP
0922
0923  JMP EXIT
0924
0925
0926  SIXTY:
0927
0928  MOV BL,6
0929
0930  LEA DX,MSG68
0931  MOV AH,9
0932  INT 21H
0933
0934
0935
0936  MOV AH,1
0937  INT 21H
0938  SUB AL,48
0939
0940
0941
0942  MUL BL
0943  AAM
0944
0945  MOV CX,AX
0946  ADD CH,48
0947  ADD CL,48
0948
0949
0950  LEA DX,MSG69
```

```
0951  MOV AH,9
0952  INT 21H
0953
0954  MOV AH,2
0955  MOV DL,CH
0956  INT 21H
0957
0958
0959  MOV DL,CL
0960  INT 21H
0961
0962  MOV DL,'0'
0963  INT 21H
0964
0965  ;FOR /- PRINT
0966  MOV DL,47
0967  INT 21H
0968  MOV DL,45
0969  INT 21H
0970
0971  ;GO BACK TO MAIN MENU
0972
0973  LEA DX,MSG70
0974  MOV AH,9
0975  INT 21H
0976
0977  LEA DX,MSG71
0978  MOV AH,9
0979  INT 21H             ;MAIN MENU
0980
0981  LEA DX,MSG2
0982  MOV AH,9
0983  INT 21H
0984
0985  MOV AH,1
0986  INT 21H
0987  SUB AL,48
0988
0989
0990
0991  CMP AL,1
0992  JE TOP
0993
0994  JMP EXIT
0995
0996  NINETY:
0997  MOV BL,9
0998
0999
1000  LEA DX,MSG68
```

```
1001        MOV AH,9
1002        INT 21H
1003
1004
1005        MOV AH,1
1006        INT 21H
1007        SUB AL,48
1008
1009        MUL BL
1010        AAM
1011
1012        MOV CX,AX
1013        ADD CH,48
1014        ADD CL,48
1015
1016
1017        LEA DX,MSG69
1018        MOV AH,9
1019        INT 21H
1020
1021        MOV AH,2
1022        MOV DL,CH
1023        INT 21H
1024
1025
1026        MOV DL,CL
1027        INT 21H
1028
1029        MOV DL,'0'
1030        INT 21H
1031
1032        ;FOR /- PRINT
1033        MOV DL,47
1034        INT 21H
1035        MOV DL,45
1036        INT 21H
1037
1038        ;GO BACK TO MAIN MENU
1039
1040        LEA DX,MSG70
1041        MOV AH,9
1042        INT 21H
1043
1044        LEA DX,MSG71
1045        MOV AH,9
1046        INT 21H
1047
1048        LEA DX,MSG2
1049        MOV AH,9
1050        INT 21H
```

```
1051        MOV AH,1
1052        INT 21H
1053        SUB AL,48
1054
1055        CMP AL,1
1056        JE TOP
1057
1058        JMP EXIT
1059
1060
1061    FACILITIES:
1062        LEA DX,MSG8
1063        MOV AH,9          ;FACILITIES STARTS
1064        INT 21H
1065
1066        LEA DX,SEJ ;NEWLINE
1067        MOV AH,9
1068        INT 21H
1069
1070
1071        LEA DX,MR5
1072        MOV AH,9
1073        INT 21H
1074
1075        LEA DX,MR5
1076        MOV AH,9
1077        INT 21H        ;BORDER
1078
1079        LEA DX,MR4
1080        MOV AH,9
1081        INT 21H
1082
1083
1084
1085        LEA DX,MSG18       ;1th
1086        MOV AH,9
1087        INT 21H
1088
1089        LEA DX,MSG19
1090        MOV AH,9           ;12th
1091        INT 21H
1092
1093
1094        LEA DX,MSG20       ;3th
1095        MOV AH,9
1096        INT 21H
1097
1098        LEA DX,MSG21
1099        MOV AH,9           ;4th
1100        INT 21H
```

```
1101
1102
1103        LEA DX,MSG22       ;5th
1104        MOV AH,9
1105        INT 21H
1106
1107
1108        LEA DX,MSG23       ;6th
1109        MOV AH,9
1110        INT 21H
1111
1112
1113        LEA DX,MSG34       ;10th
1114        MOV AH,9
1115        INT 21H
1116
1117
1118        LEA DX,MSG35       ;11th
1119        MOV AH,9
1120        INT 21H
1121
1122        LEA DX,MSG36       ;12th
1123        MOV AH,9
1124        INT 21H
1125
1126
1127
1128        LEA DX,MR4
1129        MOV AH,9
1130        INT 21H
1131
1132        LEA DX,MR5    ;BORDER
1133        MOV AH,9
1134        INT 21H
1135
1136
1137        LEA DX,MR5
1138        MOV AH,9
1139        INT 21H
1140
1141        LEA DX,MSG67
1142        MOV AH,9
1143        INT 21H
1144
1145        MOV AH,1
1146        INT 21H
1147        MOV BL,AL
1148        SUB BL,48
1149
1150
```

```
1151        CMP BL,1
1152        JE SIXTY
1153
1154        CMP BL,2
1155        JE EIGHTY
1156
1157        CMP BL,3
1158        JE EIGHTY
1159
1160        CMP BL,4
1161        JE FOURTY
1162
1163        CMP BL,5
1164        JE FIFTY
1165
1166        CMP BL,6
1167        JE SEVENTY
1168
1169        CMP BL,7
1170        JE SIXTY
1171
1172        CMP BL,8
1173        JE SIXTY
1174
1175        CMP BL,9
1176        JE SIXTY
1177
1178
1179    MISC:
1180        LEA DX,MSG8
1181        MOV AH,9          ;MISC STARTS
1182        INT 21H
1183
1184        LEA DX,SEJ ;NEWLINE
1185        MOV AH,9
1186        INT 21H
1187
1188        LEA DX,MR7
1189        MOV AH,9
1190        INT 21H
1191
1192
1193        LEA DX,MR7
1194        MOV AH,9
1195        INT 21H        ;BORDER
1196
1197        LEA DX,MR6
1198        MOV AH,9
1199        INT 21H
1200
```

```
1201
1202        LEA DX,MSG41       ;1th
1203        MOV AH,9
1204        INT 21H
1205
1206        LEA DX,MSG42       ;2th
1207        MOV AH,9
1208        INT 21H
1209
1210        LEA DX,MSG43       ;3th
1211        MOV AH,9
1212        INT 21H
1213
1214        LEA DX,MSG44       ;4th
1215        MOV AH,9
1216        INT 21H
1217
1218        LEA DX,MR6
1219        MOV AH,9
1220        INT 21H
1221
1222
1223        LEA DX,MR7
1224        MOV AH,9
1225        INT 21H        ;BORDER
1226
1227        LEA DX,MR7
1228        MOV AH,9
1229        INT 21H
1230
1231        LEA DX,MSG67
1232        MOV AH,9
1233        INT 21H
1234
1235
1236        MOV AH,1
1237        INT 21H
1238        MOV BL,AL
1239        SUB BL,48
1240
1241        CMP BL,1
1242        JE L1
1243
1244        CMP BL,2
1245        JE L2
1246
1247        CMP BL,3
1248        JE L3
1249
1250        CMP BL,4
```

```
1251        JE L3
1252
1253        JMP INVALID
1254
1255
1256    L1:
1257        MOV BL,8
1258        JMP L4
1259
1260    L2:
1261        MOV BL,8
1262        LEA DX,MSG68
1263        MOV AH,9
1264        INT 21H
1265
1266
1267
1268        MOV AH,1
1269        INT 21H
1270        SUB AL,48
1271
1272
1273        MUL BL
1274        AAM
1275
1276
1277        MOV CX,AX
1278        ADD CH,48
1279        ADD CL,48
1280
1281
1282        LEA DX,MSG69
1283        MOV AH,9
1284        INT 21H
1285
1286        MOV AH,2
1287        MOV DL,CH
1288        INT 21H
1289
1290
1291        MOV DL,CL
1292        INT 21H
1293
1294        MOV DL,'0'
1295        INT 21H
1296
1297        ;FOR /- PRINT
1298        MOV DL,47
1299        INT 21H
1300        MOV DL,45
```

```
1301        INT 21H
1302
1303        ;GO BACK TO MAIN MENU
1304
1305        LEA DX,MSG70
1306        MOV AH,9
1307        INT 21H
1308
1309        LEA DX,MSG71
1310        MOV AH,9
1311        INT 21H
1312
1313        LEA DX,MSG2
1314        MOV AH,9
1315        INT 21H
1316
1317        MOV AH,1
1318        INT 21H
1319        SUB AL,48
1320
1321
1322        CMP AL,1
1323        JE TOP
1324
1325        JMP EXIT
1326
1327
1328
1329    L3:
1330        MOV BL,5
1331        JMP L4
1332
1333
1334    L4:
1335        LEA DX,MSG68
1336        MOV AH,9
1337        INT 21H
1338
1339        MOV AH,1
1340        INT 21H
1341        SUB AL,48
1342
1343
1344
1345        MUL BL
1346        AAM
1347
1348        MOV CX,AX
1349        ADD CH,48
1350        ADD CL,48
```

```
1351
1352
1353        LEA DX,MSG69
1354        MOV AH,9
1355        INT 21H
1356
1357        MOV AH,2
1358        MOV DL,CH
1359        INT 21H
1360
1361
1362        MOV DL,CL
1363        INT 21H
1364
1365        ;FOR /- PRINT
1366        MOV DL,47
1367        INT 21H
1368        MOV DL,45
1369        INT 21H
1370
1371
1372        ;GO BACK TO MAIN MENU
1373
1374
1375        LEA DX,MSG70
1376        MOV AH,9
1377        INT 21H
1378
1379        LEA DX,MSG71
1380        MOV AH,9
1381        INT 21H
1382
1383        LEA DX,MSG2
1384        MOV AH,9
1385        INT 21H
1386
1387        MOV AH,1
1388        INT 21H
1389        SUB AL,48
1390
1391
1392
1393        CMP AL,1
1394        JE TOP
1395
1396        JMP EXIT
1397
1398
1399
1400    FUNCTIONS:
```

```
1401        LEA DX,MSG8
1402        MOV AH,9          ;FUNCTIONS STARTS
1403        INT 21H
1404
1405        LEA DX,SEJ ;NEWLINE
1406        MOV AH,9
1407        INT 21H
1408
1409        LEA DX,MR7
1410        MOV AH,9
1411        INT 21H
1412
1413
1414        LEA DX,MR7
1415        MOV AH,9
1416        INT 21H        ;BORDER
1417
1418        LEA DX,MR6
1419        MOV AH,9
1420        INT 21H
1421
1422
1423        LEA DX,MSG49       ;1th
1424        MOV AH,9
1425        INT 21H
1426
1427        LEA DX,MSG60       ;2th
1428        MOV AH,9
1429        INT 21H
1430
1431        LEA DX,MSG61       ;3th
1432        MOV AH,9
1433        INT 21H
1434
1435        LEA DX,MSG62       ;4th
1436        MOV AH,9
1437        INT 21H
1438
1439        LEA DX,MSG63       ;5th
1440        MOV AH,9
1441        INT 21H
1442
1443        LEA DX,MSG64       ;6th
1444        MOV AH,9
1445        INT 21H
1446
1447        LEA DX,MR6
1448        MOV AH,9
1449        INT 21H
1450
```

```
1451
1452        LEA  DX,MR7
1453        MOV  AH,9
1454        INT  21H        ;BORDER
1455
1456        LEA  DX,MR7
1457        MOV  AH,9
1458        INT  21H
1459
1460        LEA  DX,MSG67
1461        MOV  AH,9
1462        INT  21H
1463
1464
1465        MOV  AH,1
1466        INT  21H
1467        MOV  BL,AL
1468        SUB  BL,48
1469
1470        CMP  BL,1
1471        JE   BDAY
1472
1473        CMP  BL,2
1474        JE   WEDDING
1475
1476        CMP  BL,3
1477        JE   FUNDRAISER
1478
1479        CMP  BL,4
1480        JE   RECEPTION
1481
1482        CMP  BL,5
1483        JE   EXHIBITION
1484
1485        CMP  BL,6
1486        JE   BOARD
1487
1488        JMP  INVALID
1489
1490    BDAY:
1491        MOV  BL,8
1492        JMP  COMMON
1493
1494    WEDDING:
1495        MOV  BL,6
1496        JMP  COMMON
1497
1498
1499    FUNDRAISER:
1500        MOV  BL,9
1501        JMP  COMMON
1502
1503    RECEPTION:
1504        MOV  BL,9
1505        JMP  COMMON
1506
1507
1508    EXHIBITION:
1509        MOV  BL,7
1510        JMP  COMMON
1511
1512
1513    BOARD:
1514        MOV  BL,5
1515        JMP  COMMON
1516
1517
1518    COMMON:
1519        LEA  DX,MSG68
1520        MOV  AH,9
1521        INT  21H
1522
1523        MOV  AH,1
1524        INT  21H
1525        SUB  AL,48
1526
1527        MUL  BL
1528        AAM
1529
1530        MOV  CX,AX
1531        ADD  CH,48
1532        ADD  CL,48
1533
1534
1535        LEA  DX,MSG69
1536        MOV  AH,9
1537        INT  21H
1538
1539        MOV  AH,2
1540        MOV  DL,CH
1541        INT  21H
1542
1543
1544        MOV  DL,CL
1545        INT  21H
1546
1547
1548        MOV  DL,47
1549        INT  21H
1550        MOV  DL,45
1551        INT  21H
1552
1553        ;GO BACK TO MAIN MENU
1554
1555        LEA  DX,MSG70
1556        MOV  AH,9
1557        INT  21H
1558
1559        LEA  DX,MSG71
1560        MOV  AH,9
1561        INT  21H
1562
1563        LEA  DX,MSG2
1564        MOV  AH,9
1565        INT  21H
1566
1567        MOV  AH,1
1568        INT  21H
1569        SUB  AL,48
1570
1571        CMP  AL,1
1572        JE   TOP
1573
1574        JMP  EXIT:
1575
1576
1577    INVALID:
1578
1579        LEA  DX,MSG65
1580        MOV  AH,9
1581        INT  21H
1582
1583
1584        LEA  DX,MSG66
1585        MOV  AH,9
1586        INT  21H
1587
1588        JMP  EXIT
1589
1590    EXIT:
1591
1592        MOV  AH,4CH
1593        INT  21H
1594    MAIN ENDP
1595    END MAIN
1596
1597
1598
1599    ret
1600
```

Snapshots of Results:

Initial Screen:

Entering 1st input:

```
Enter your Requirements: 2

***Choose your specific needs (All prices are in k)***

  ****************************************************************************
  ****************************************************************************
  **                                                                      **
  **                    1.SUITE                   90/-                    **
  **                    2.PENTHOUSE               90/-                    **
  **                    3.CONFERENCE              30/-                    **
  **                    4.QUEEN                   90/-                    **
  **                    5.KING                    90/-                    **
  **                    6.BASIC                   10/-                    **
  **                    7.STUDIO                  30/-                    **
  **                    8.APARTMENT               30/-                    **
  **                    9.TWIN                    30/-                    **
  **                                                                      **
  ****************************************************************************
  ****************************************************************************
```

Entering 2nd input:

```
Enter your order: 4
No. of Bookings: 3
Total Price: 270/-

1.Go Back to Main Menu
2.EXIT

Enter your Requirements: _
```

Reordering:

```
1.Go Back to Main Menu
2.EXIT

Enter your Requirements: 1

              ****Welcome to KDM Hotel****


  *************************************************
  *************************************************
  **                                             **
  **                    1.FOOD                    **
  **                    2.ROOM                    **
  **                    3.FACILITIES              **
  **                    4.MISCELLANEOUS           **
  **                    5.FUNCTIONS               **
  **                                             **
  *************************************************
  *************************************************

Enter your Requirements: _
```

Entering 1st input:

```
Enter your Requirements: 5

***Choose your specific needs (All prices are in k)***


   ******************************************************
   ******************************************************
   **                                                  **
   **        1.BIRTHDAY               20/-             **
   **        2.WEDDING ANNIVERSARY    10/-             **
   **        3.FUNDRAISER              9/-             **
   **        4.RECEPTION               9/-             **
   **        5.EXHIBITION              7/-             **
   **        6.BOARD MEETINGS          5/-             **
   **                                                  **
   ******************************************************
   ******************************************************
```
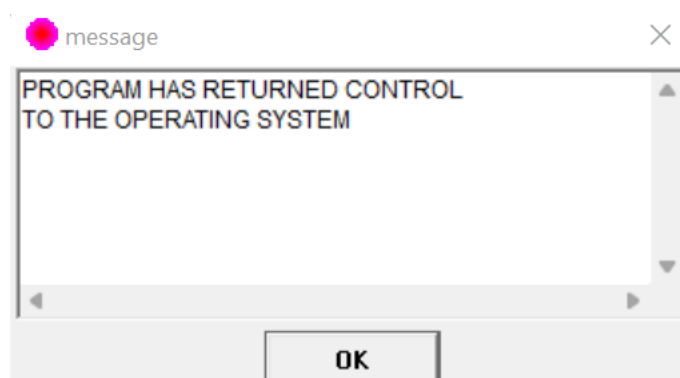
Entering 2nd input:

```
   ******************************************************
   ******************************************************
   **                                                  **
   **        1.BIRTHDAY               20/-             **
   **        2.WEDDING ANNIVERSARY    10/-             **
   **        3.FUNDRAISER              9/-             **
   **        4.RECEPTION               9/-             **
   **        5.EXHIBITION              7/-             **
   **        6.BOARD MEETINGS          5/-             **
   **                                                  **
   ******************************************************
   ******************************************************

Enter your order: 5
No. of Bookings: 1
Total Price: 07/-

1.Go Back to Main Menu
2.EXIT
```

Exiting the Operation

```
1.Go Back to Main Menu
2.EXIT

Enter your Requirements: 2
```

message   ×

PROGRAM HAS RETURNED CONTROL
TO THE OPERATING SYSTEM

OK

3. CONCLUSION AND FUTURE WORK

4.1 Result, Conclusion, and Inference

We know that every Higher Level Language code that we come across is converted to corresponding ALP when compiling, interpreting, etc. In our project, we were able to demonstrate how to directly code in the ALP of the 8086 microprocessor. Our project was successfully able to create a Hotel Management System including some additional features. Given the facilities that the user wants, our project was able to generate a bill separately at the end of each process.

4.2 Future Work and Cost

There are many things that can be added to our project to make it more effective.

1. Along with printing the bill at each section of the project, we can also combine and print the bill at last for the ease of the user.
2. We can also set the count for rooms in the rooms section of the project so that once the user wishes to choose the room that is already filled, it can print a message. We have already started working on this idea. The screenshots posted below indicates it.

3.

```
.CODE
MAIN PROC
    MOV  AX,@DATA
    MOV  DS,AX
  TOP:
    MOV  DS:[3000H],2
    MOV  DS:[3004H],2
    MOV  DS:[3008H],2
    MOV  DS:[3012H],2
    MOV  DS:[3016H],2
    MOV  DS:[3020H],2
    MOV  DS:[3024H],2
    MOV  DS:[3028H],2
    MOV  DS:[3032H],2
    LEA  DX,MSG1
    MOV  AH,9
```

The idea is to use certain memory locations to store the value of the total number of rooms. Since there are 9 types of rooms, we are maintaining counts in 9 different memory locations. Once the user selects each memory location, the count will get reduced. When it reaches zero, no user can book that particular type of room. Here we gave the initial count of all the rooms to 2 as the default value. But in reality, this can vary.

4. The cost for doing this is very minimal as we are using some extra memory locations. The size of these memory locations is infinitesimally small and therefore the cost is too.

4. REFERENCES

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1. Advanced Microprocessors and Peripherals by K. M. Bhurchandi, A. K. Ray.
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