RESTAURANT MANAGEMENT SYSTEM USING ASSEMBLY LANGUAGE PROGRAMMING

J Component Project

CSE2006 Microprocessor and interfacing

SUBMITTED BY

1. Arshdeep Singh Bhatia (19BCB0086)
2. Shreyas Chaudhry (19BCE0774)
3. Shreyas Nair (19BCE0875)
4. Tejas Jonnadula(19BCE2259)
5. Krishna Jaiswal (19BCE2575)

SUBMITTED TO

Prof. CHRISTINA JOSEPHINE MALATHI A

School of Computer Science and Engineering

Vellore Institute of Technology

Vellore

Fall Semester 2021

DECLARATION

We hereby declare that the project entitled "RESTAURANT MANAGEMENT SYSTEM USING ASSEMBLY LANGUAGE PROGRAMMING" submitted by me, for the award of the degree of Bachelor of Technology in Programme to VIT is a record of bonafide work carried out by me under the supervision of Prof. Christina Josephine Malathi A. I further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

1. Arshdeep Singh Bhatia (19BCB0086)
2. Shreyas Chaudhry (19BCE0774)
3. Shreyas Nair (19BCE0875)
4. Tejas Jonnadula(19BCE2259)
5. Krishna Jaiswal (19BCE2575)

Vellore Campus

December 2021

Fall Semester 2021-2022

ACKNOWLEDGEMENT

We would like to thank the SCOPE school for providing us this opportunity to learn and apply our skills in the world of assembly language programming. In addition to that we would like to thank Prof. Christina Josephine Malathi A for guiding us throughout this journey and helping us to develop this application project.Lastly we would like to thank VIT for providing students with the necessary resources to accomplish such endeavours.

1. Arshdeep Singh Bhatia (19BCB0086)
2. Shreyas Chaudhry (19BCE0774)
3. Shreyas Nair (19BCE0875)
4. Tejas Jonnadula(19BCE2259)
5. Krishna Jaiswal (19BCE2575)

Vellore Campus

December 2021

Fall Semester 2021-2022

TABLE OF CONTENTS

AIM

To make a responsive, lightweight restaurant management system using assembly language programming. We use emu8086 for this purpose.

ABSTRACT

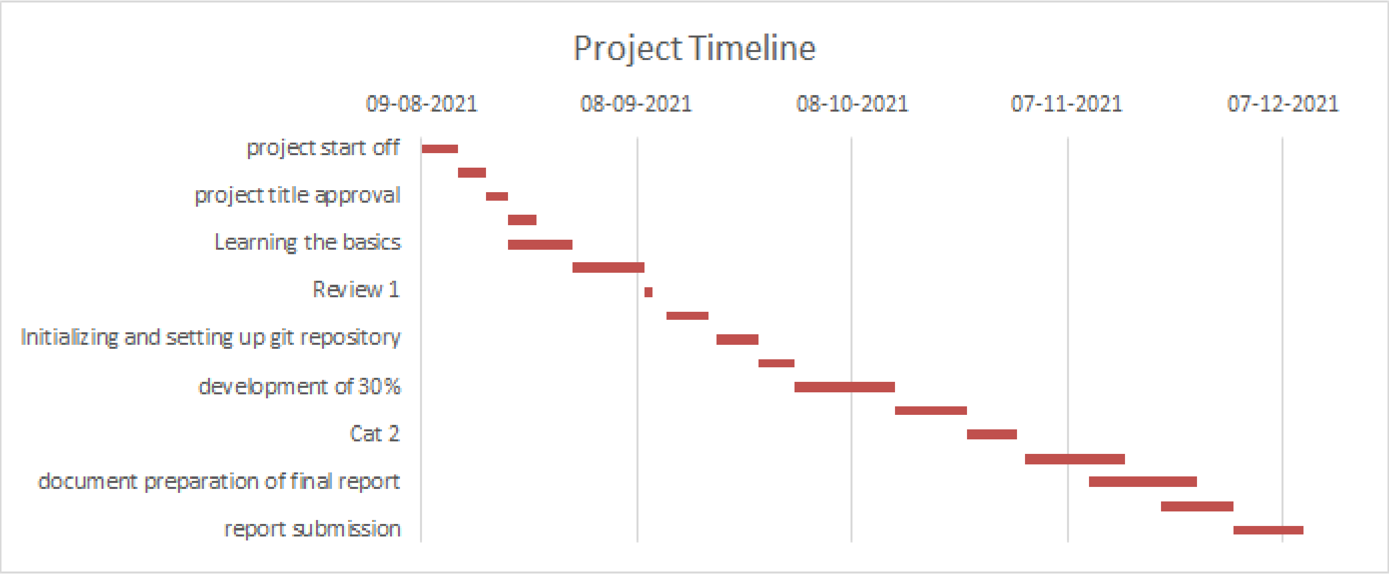
With modernization, the restaurant culture is increasing day by day. Everyone prefers to go to an outlet and eat there especially on weekends . With the increase in the demand for the restaurant culture the possibility of human error and wastage of time also increases . Due to the limited amount of staff available to service it could lead to a lot of wastage of time . This has led to long queues and waiting times. In this project we are designing , developing and testing an assembly language code program to be used in a restaurant generally referred to as a restaurant management system . This software is built on 8086 and hence it has very little to no need of specialized hardware and can perform tasks very quickly and accurately.Such a system is portable lightweight and easy to mass-produce thus having a huge scope in small scale restaurants

INTRODUCTION

A microprocessor is the place where data processing, logic and control is included on a single integrated circuit. It contains arithmetic logic units, clocks, registers for various purposes. EMU8086 is a microprocessor emulator, it has the ability to emulate hardware things as a software. Since the demand for restaurants is increasing and since it has become a tedious job for humans to process the order and bill it, also because of the possibility of human errors automated systems are becoming more popular. Therefore we create an automated order processing and billing system using assembly language and emu8086. The expected results will be menu display, processing and billing.

PROPOSED TIMELINE

WORK FLOW PATTERN WITH TIMELINE:



DETAILED TASK LAYOUT

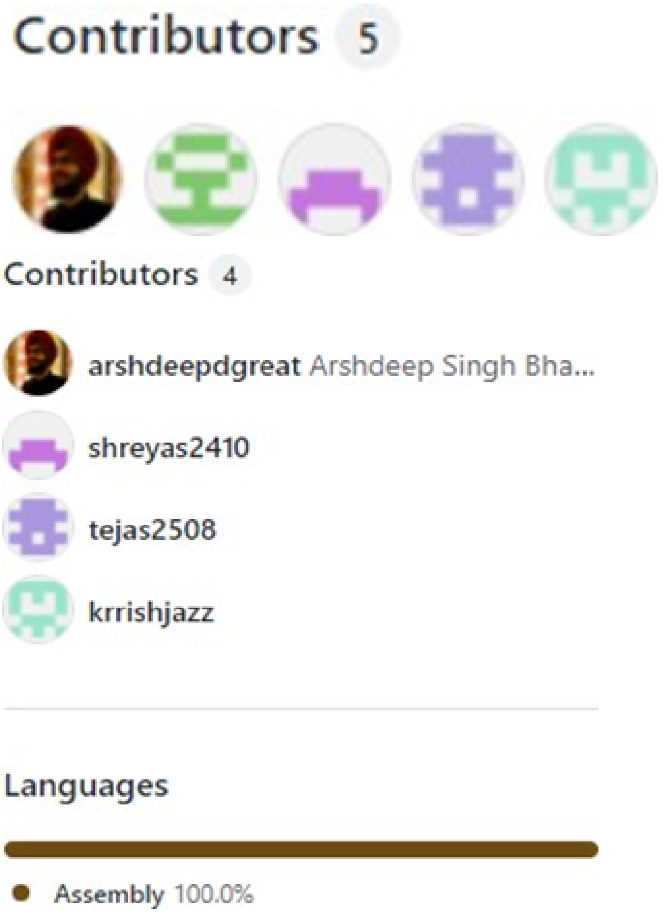
Task	Start Date	End date	Duration
project start off	09/08/21	14/08/21	5
team members selection	14/08/21	18/08/21	4
project title approval	18/08/21	21/08/21	3
research and analysis	21/08/21	25/08/21	4
Learning the basics	21/08/21	30/08/21	9
Gathering tool information	30/08/21	09/09/21	10
Review 1	09/09/21	10/09/21	1
Cat 1	12/09/21	18/09/21	6
Initializing and setting up git repository	19/09/21	25/09/21	6
initial commits	25/09/21	30/09/21	5
development of 30%	30/09/21	14/10/21	14
review 2 based preparation	14/10/21	24/10/21	10
Cat 2	24/10/21	31/10/21	7
development of 70%	01/11/21	15/11/21	14
document preparation of final report	10/11/21	25/11/21	15
project develped 100%	20/11/21	30/11/21	10
report submission	30/11/21	10/12/21	10

CONTRIBUTIONS

GITHUB SCREENSHOTS

- GITHUB repository
  https://github.com/arshdeepdgreat/Jcomp-MIcroprocessor

- CONTRIBUTORS DETAILS



Contributors 5

Contributors 4

arshdeepdgreat Arshdeep Singh Bha...

shreyas2410

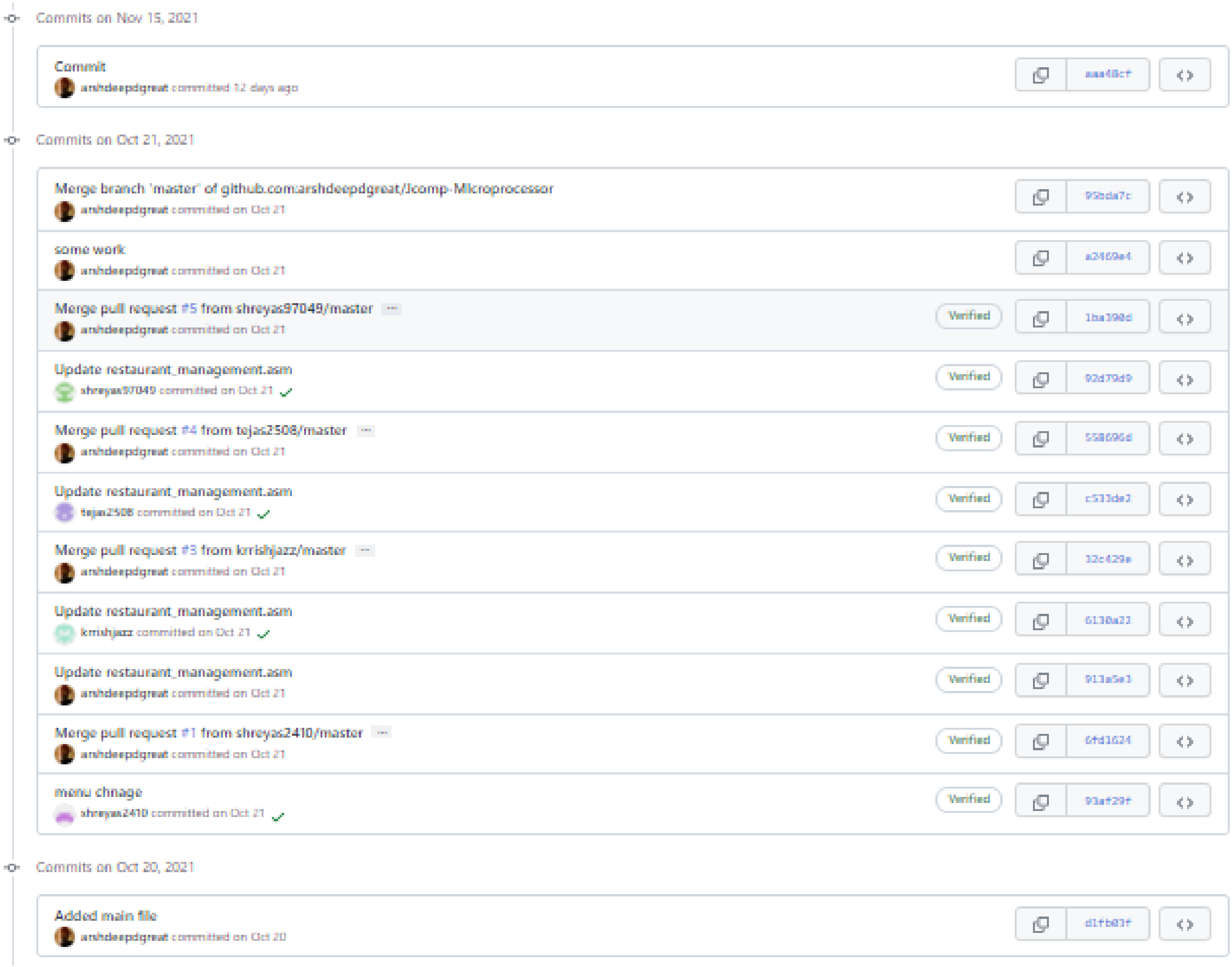
tejas2508

krrishjazz

Languages

● Assembly 100.0%

COMMIT HISTORY



Commits on Nov 15, 2021

Commit
arshdeepdgreat committed 12 days ago
aaa48cf

Commits on Oct 21, 2021

Merge branch 'master' of github.com:arshdeepdgreat/Jcomp-Microprocessor
arshdeepdgreat committed on Oct 21
95bda7c

some work
arshdeepdgreat committed on Oct 21
a2469e4

Merge pull request #5 from shreyas97049/master …
arshdeepdgreat committed on Oct 21
Verified 1ba398d

Update restaurant_management.asm
shreyas97049 committed on Oct 21 ✓
Verified 92d79d9

Merge pull request #4 from tejas2508/master …
arshdeepdgreat committed on Oct 21
Verified 558696d

Update restaurant_management.asm
tejas2508 committed on Oct 21 ✓
Verified c533de3

Merge pull request #3 from krrishjazz/master …
arshdeepdgreat committed on Oct 21
Verified 32c429e

Update restaurant_management.asm
krrishjazz committed on Oct 21 ✓
Verified 6130a23

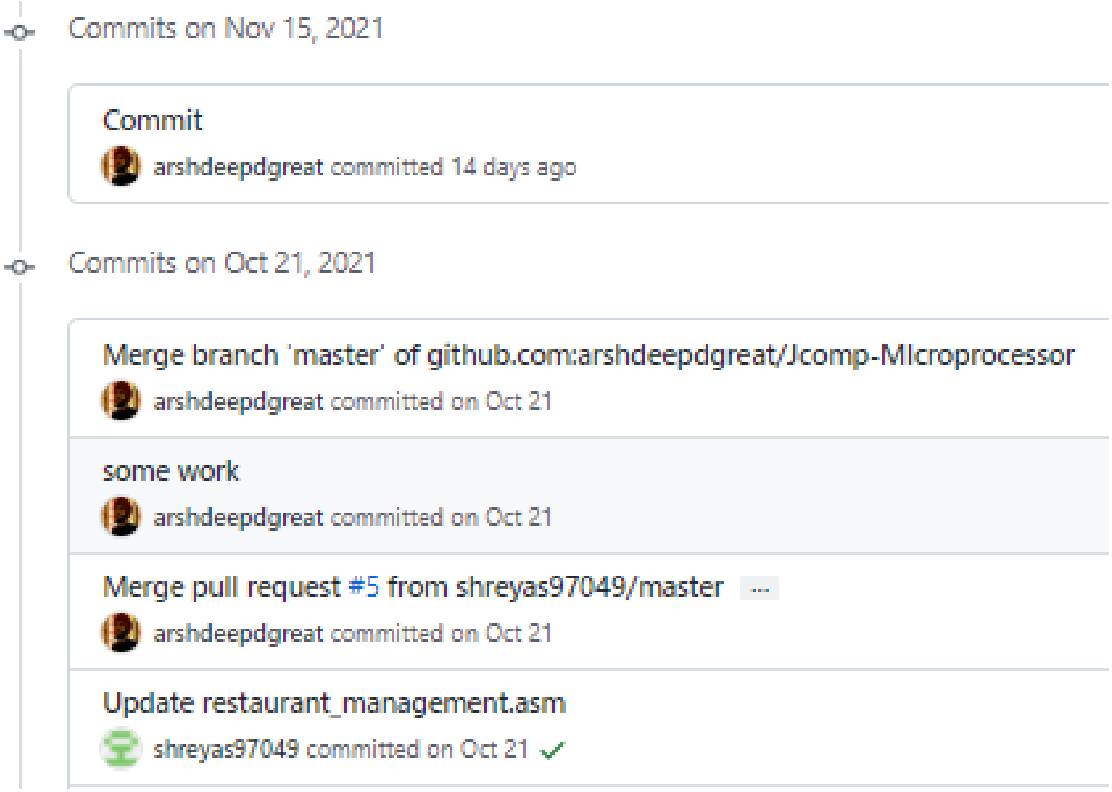
Update restaurant_management.asm
arshdeepdgreat committed on Oct 21
Verified 913a5e3

Merge pull request #1 from shreyas2410/master …
arshdeepdgreat committed on Oct 21
Verified 6fd1624

menu chnage
shreyas2410 committed on Oct 21 ✓
Verified 93af29f

Commits on Oct 20, 2021

Added main file
arshdeepdgreat committed on Oct 20
d1fb03f



Commits on Nov 15, 2021

Commit
arshdeepdgreat committed 14 days ago

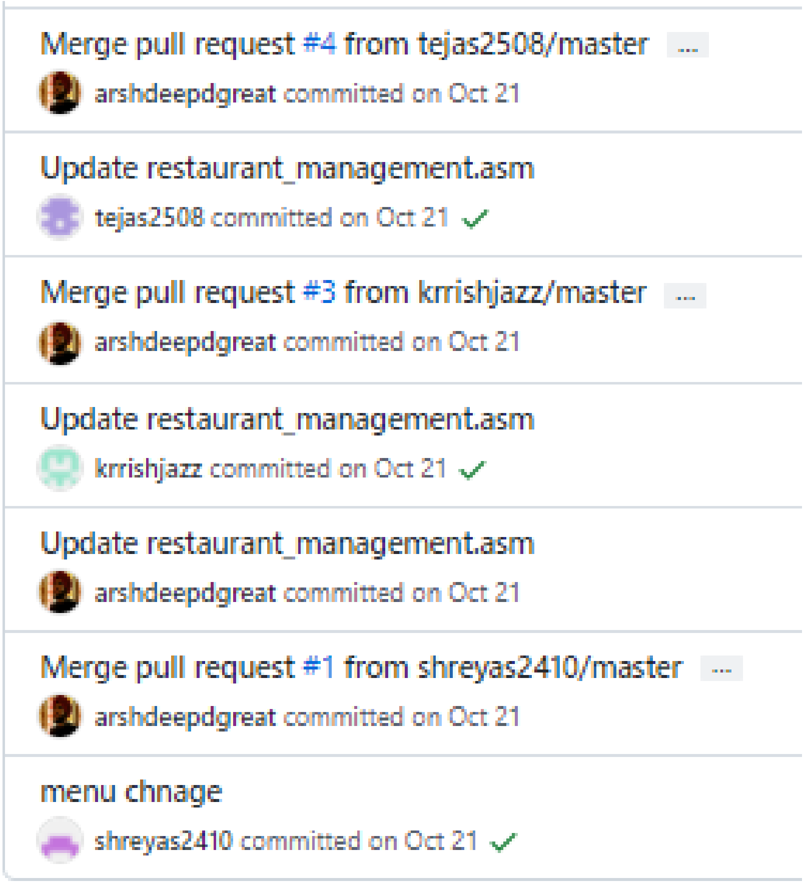
Commits on Oct 21, 2021

Merge branch 'master' of github.com:arshdeepdgreat/Jcomp-MIcroprocessor
arshdeepdgreat committed on Oct 21

some work
arshdeepdgreat committed on Oct 21

Merge pull request #5 from shreyas97049/master …
arshdeepdgreat committed on Oct 21

Update restaurant_management.asm
shreyas97049 committed on Oct 21 ✓



Merge pull request #4 from tejas2508/master …
arshdeepdgreat committed on Oct 21

Update restaurant_management.asm
tejas2508 committed on Oct 21 ✓

Merge pull request #3 from krrishjazz/master …
arshdeepdgreat committed on Oct 21

Update restaurant_management.asm
krrishjazz committed on Oct 21 ✓

Update restaurant_management.asm
arshdeepdgreat committed on Oct 21

Merge pull request #1 from shreyas2410/master …
arshdeepdgreat committed on Oct 21

menu chnage
shreyas2410 committed on Oct 21 ✓

LITERATURE SURVEY

S NO	TITLE	ADVANTAGES	DISADVANTAGES
1.	Using Video Game Development to Engage Undergraduate Students of Assembly Language Programming	-The paper helps us to know that the assembly programme has gathered large interests among peers. -Also helped us to know that application based projects can be made in assembly, because they have shown pictures of the basic pacman games, and tetris, etc.	-Just a survey based paper, no such technical thing involved in the paper, also not given in detail about the technical aspect involved in video game making using assembly language
2.	Microprocessor-Based Controller for Pharmacodynamically Applications	-An efficient controller is made using a microprocessor (Motorola 6800) for injecting medicine into the blood. -microprocessor based controllers can also be used for other pharma base applications.	-accuracy concerns, also the Motorola 6800 is an old processor and newer microprocessors are available which could provide more new features.
3.	The case for assembly language programming	-Explained regarding all the aspects of assembly language programming in detail	-No specific mention in relation to the programming aspects required for certain applications like video basic video game making and other projects,etc.
4.	Application of EMU8086 in the Teaching of Microcomputer Theory and Interface Technology	-the paper mentions regarding the use of emu8086 software for better understanding of all aspects including addressing modes, -Gives a good idea regarding the software	-no mention regarding the accuracy anywhere in the paper and also the reliability

5.	microprocessor -based system for automatic measurement of concrete resistivity	-Another field of application where microprocessor based systems can be used and have been explored.	-no mention regarding the accuracy anywhere in the paper and also the reliability.
6.	Effective Instruction Fetch Stage Design for 16-bit Instruction Set Architecture	-This paper presents a new instruction coalescing technique named as move folding to remove redundant move instructions caused by the limitation of the 16-bit instruction set	-constraint named lack of bits for intermediate values was identified by them but no solution was provided
7.	E-Restaurant: Online Restaurant Management System for Android	-this paper also provides a basic android application, here they have used the functionality of an PIC microcontroller. -new technologies ike zigbee, etc are also proposed	-no proper architecture diagram of working of the system is provided, and no mention on any further updates of the application
8.	The case for the reduced instruction set computer	The following paper gives us a good detailed insight on the major architectures of the computers and is greatly insightful for learning about speed and efficiency of executions	-It is related but very indirectly to our project as the paper talks more about how the ISA complexity has increased over recent years. -doesn’t consider assembly language alone.

10.	Research on Method of Mixture Programming of Assembly Language and C/C++ Language	This technical paper is a good take on comparing assembly language to a HLL like C++ for getting benefits of both types of programming language	-The paper acts as a template only -More effort to be put in while implementing it which requires further research

TOOLS REQUIRED

1) Assembler for asm
2) 8086 chipset
3) Assembly language editor
4) A target machine on which the program shall be executed
5) Git and Github

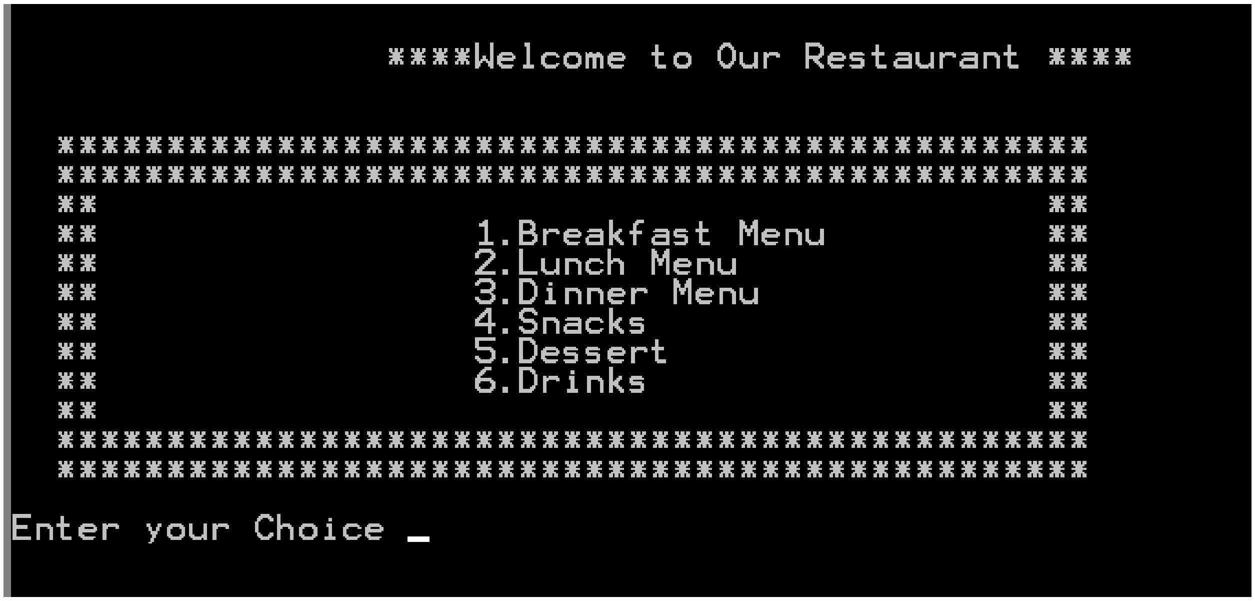
Fortunately the needs of 1-3 are satisfied by the emu8086 application which has been licensed by our University.

As for the target machine it will be a windows 10 based system with the emu8086 installed in it.

Since we are a team the code shall be monitored over a remote repository on github and each of us will use git in our system to contribute to the same.

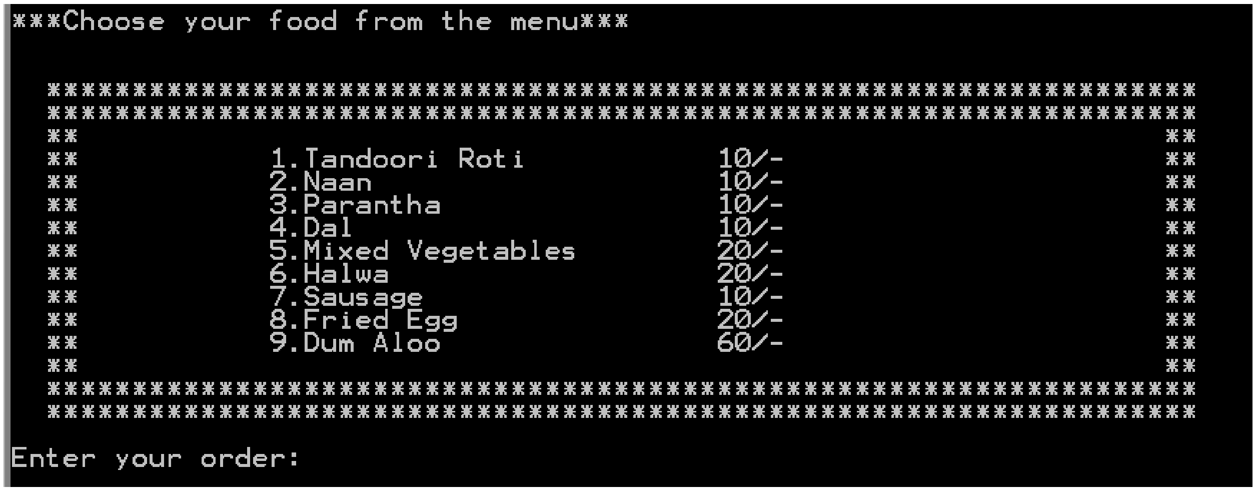
RESULTS AND OUTPUTS

WELCOME PAGE



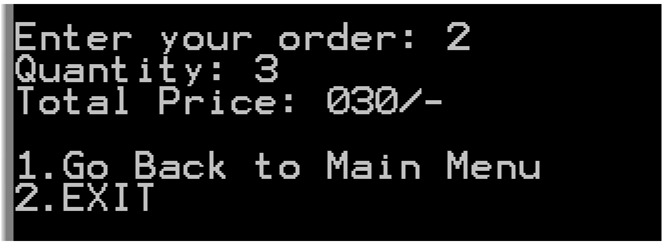
```
                 ****Welcome to Our Restaurant ****


  ***********************************************
  ***********************************************
  **                                           **
  **                 1.Breakfast Menu          **
  **                 2.Lunch Menu              **
  **                 3.Dinner Menu             **
  **                 4.Snacks                  **
  **                 5.Dessert                 **
  **                 6.Drinks                  **
  **                                           **
  ***********************************************
  ***********************************************

Enter your Choice _
```

BREAKFAST MENU



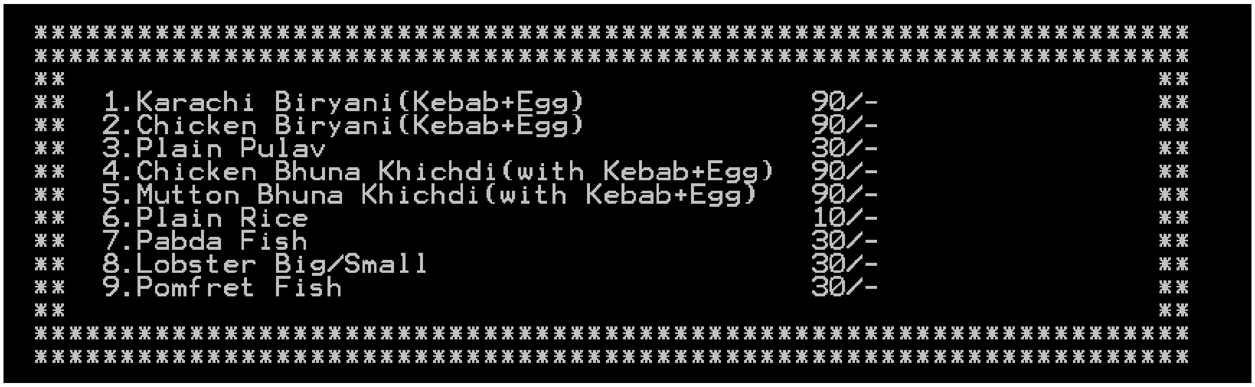
```
***Choose your food from the menu***


  *******************************************************************
  *******************************************************************
  **                                                               **
  **           1.Tandoori Roti           10/-                      **
  **           2.Naan                    10/-                      **
  **           3.Parantha                10/-                      **
  **           4.Dal                     10/-                      **
  **           5.Mixed Vegetables        20/-                      **
  **           6.Halwa                   20/-                      **
  **           7.Sausage                 10/-                      **
  **           8.Fried Egg               20/-                      **
  **           9.Dum Aloo                60/-                      **
  **                                                               **
  *******************************************************************
  *******************************************************************

Enter your order:
```

PLACING ORDER



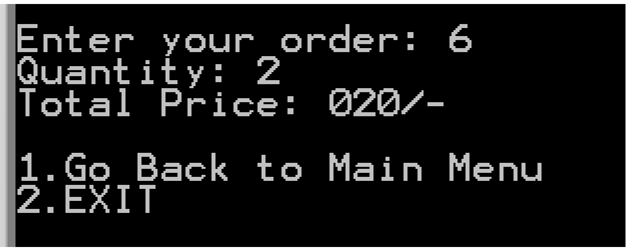
```
Enter your order: 2
Quantity: 3
Total Price: 030/-

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

LUNCH MENU



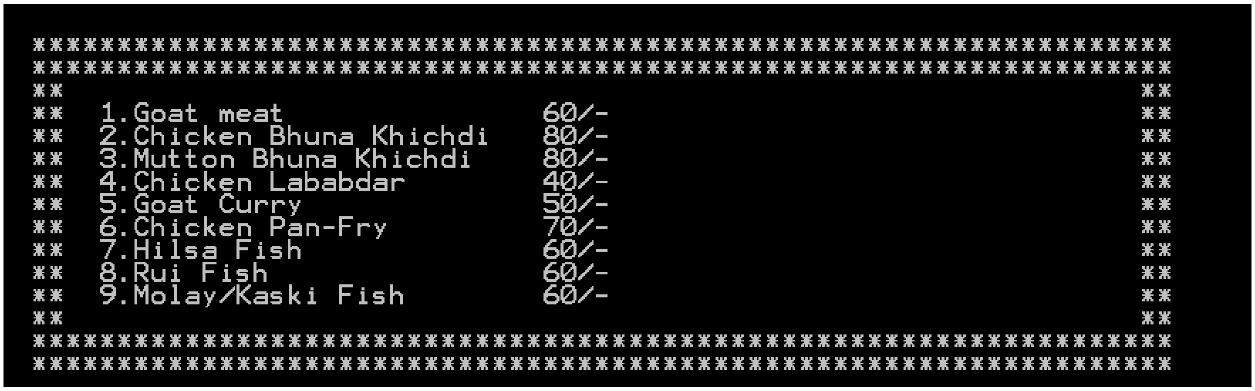
```
********************************************************************
********************************************************************
**                                                                **
**   1.Karachi Biryani(Kebab+Egg)              90/-               **
**   2.Chicken Biryani(Kebab+Egg)              90/-               **
**   3.Plain Pulav                             30/-               **
**   4.Chicken Bhuna Khichdi(with Kebab+Egg)   90/-               **
**   5.Mutton Bhuna Khichdi(with Kebab+Egg)    90/-               **
**   6.Plain Rice                              10/-               **
**   7.Pabda Fish                              30/-               **
**   8.Lobster Big/Small                       30/-               **
**   9.Pomfret Fish                            30/-               **
**                                                                **
********************************************************************
********************************************************************
```

PLACING ORDER



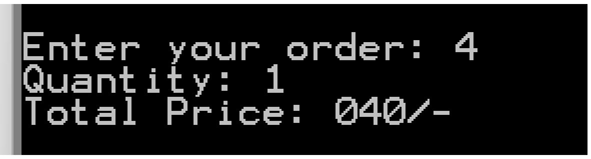
```
Enter your order: 6
Quantity: 2
Total Price: 020/-

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

DINNER MENU



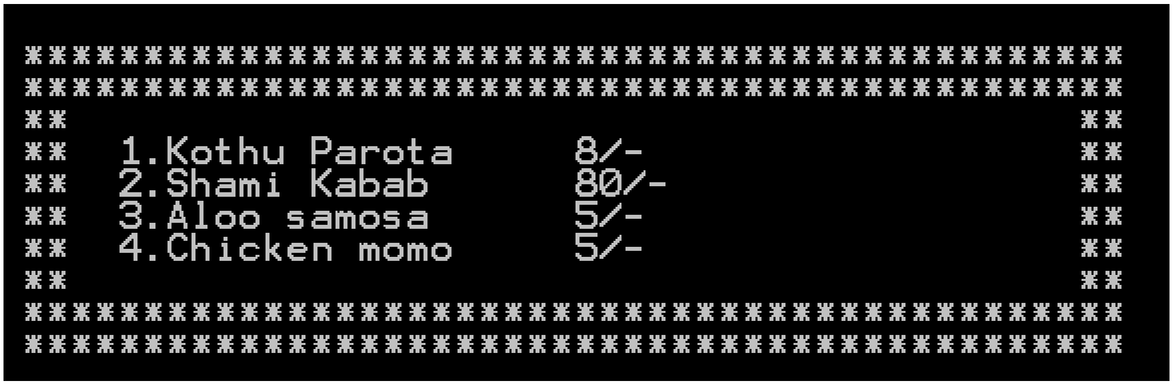
```
*******************************************************************
*******************************************************************
**                                                               **
**   1.Goat meat              60/-                               **
**   2.Chicken Bhuna Khichdi  80/-                               **
**   3.Mutton Bhuna Khichdi   80/-                               **
**   4.Chicken Lababdar       40/-                               **
**   5.Goat Curry             50/-                               **
**   6.Chicken Pan-Fry        70/-                               **
**   7.Hilsa Fish             60/-                               **
**   8.Rui Fish               60/-                               **
**   9.Molay/Kaski Fish       60/-                               **
**                                                               **
*******************************************************************
*******************************************************************
```

PLACING ORDER



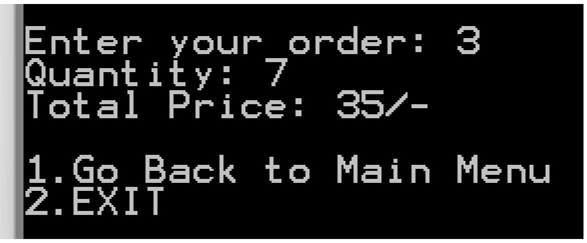
```
Enter your order: 4
Quantity: 1
Total Price: 040/-
```

SNACKS MENU



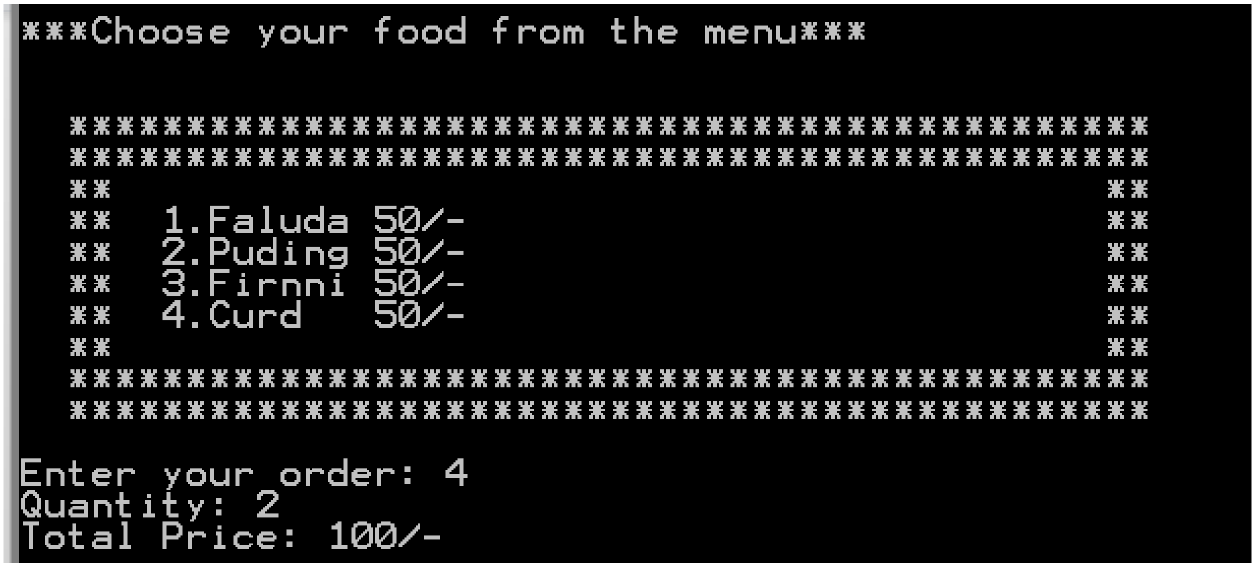
```
**********************************************
**********************************************
**                                          **
**  1.Kothu Parota     8/-                  **
**  2.Shami Kabab      80/-                 **
**  3.Aloo samosa      5/-                  **
**  4.Chicken momo     5/-                  **
**                                          **
**********************************************
**********************************************
```

PLACING ORDER



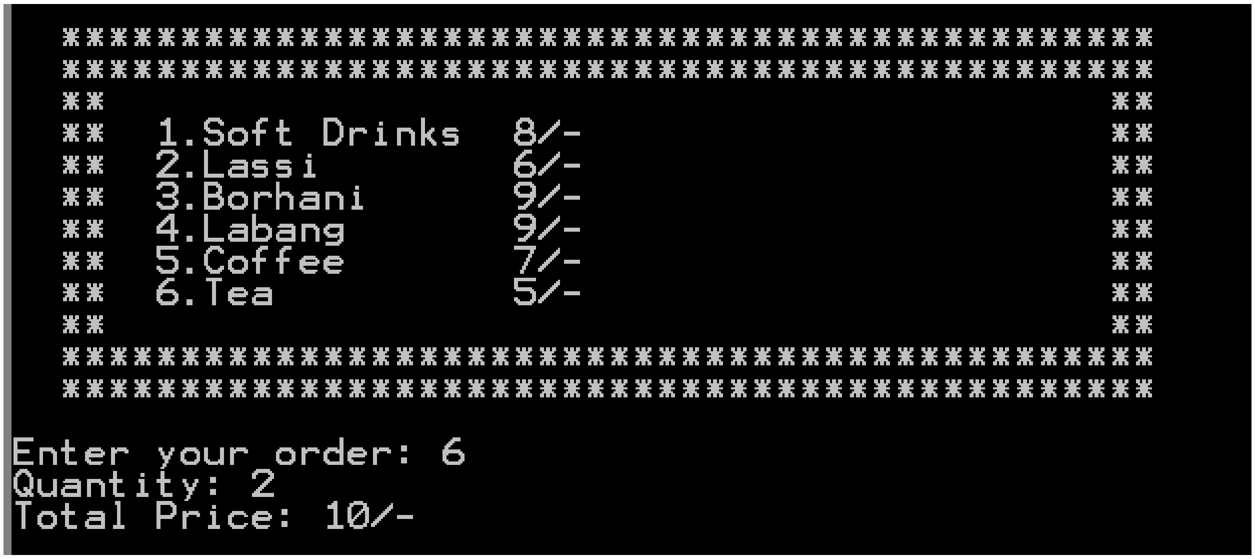
```
Enter your order: 3
Quantity: 7
Total Price: 35/-

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

DESSERT MENU AND ORDER



```
***Choose your food from the menu***


  **********************************************
  **********************************************
  **                                          **
  **  1.Faluda 50/-                           **
  **  2.Puding 50/-                           **
  **  3.Firnni 50/-                           **
  **  4.Curd   50/-                           **
  **                                          **
  **********************************************
  **********************************************

Enter your order: 4
Quantity: 2
Total Price: 100/-
```

DRINKS MENU AND ORDER



```
  **********************************************
  **********************************************
  **                                          **
  **  1.Soft Drinks  8/-                      **
  **  2.Lassi        6/-                      **
  **  3.Borhani      9/-                      **
  **  4.Labang       9/-                      **
  **  5.Coffee       7/-                      **
  **  6.Tea          5/-                      **
  **                                          **
  **********************************************
  **********************************************

Enter your order: 6
Quantity: 2
Total Price: 10/-
```

CONCLUSION

After the completion of our project , we have created a restaurant management system using assembly language programming . It is a lightweight project on Restaurant Management System using Basics Assembly Language concept.. The main feature of our project is that it is time saving, as there is a lot of rush in restaurants and we usually have to wait for the waiters to come and take our order . Using our project it has become very easy to order , the billing process and time consumption to complete the process of ordering , delivering and paying has reduced . The language used in the project is user friendly and very easy to use . This has concluded the project report and provided an insight into the possible future development .

FUTURE SCOPE

The restaurant business can generate a lot of revenue but in order to increase our business we will have to make ordering easy for our customers.
This can be done by various means.
Future of restaurant management system.

- ***Order by tweet*** - The customers are able to order their food through Twitter by tagging the service with the orders. Domino's Pizza was the first food delivery service that brought the Twitterverse.
- ***Order via virtual assistant*** - Food delivery app doesn't stop the ordering mod eBay tweeting the needed meals. Grubhub like apps also allows the customers to order through virtual assistants like Alexa and google assistant.
- ***Order through smartwatches*** - Nearly 141 million people are using smartwatches, therefore a food delivery app like UberEats allows the customers to place their orders via smartwatches & TV.
- ***Order from the car*** - Pizza hunt allows their customers to order the pizza from the car itself. The ordered pizza will be delivered right at their car doorstep. Many food delivery services are following it today.
- We can open a suggestion box to improve performance.

These are a few of the future trends of the food ordering system, with these ordering modes we can easily gain customers to our service.

REFERENCES

1. *Assembly Language Mixed with C and Visual C++ Language for Programming--《Journal of Qingdao University of Science and Technology》2003年S1期*. (n.d.). En.cnki.com.cn. Retrieved September 9, 2021, from https://en.cnki.com.cn/Article_en/CJFDTotal-QDHG2003S1045.htm
2. Kawash, J., & Collier, R. (2013). Using video game development to engage undergraduate students of assembly language programming. *Proceedings of the 14th Annual ACM SIGITE Conference on Information Technology Education*. https://doi.org/10.1145/2512276.2512281
3. Kim, A., Seok Joong Hwang, & Seon Wook Kim. (2008). Effective Instruction Fetch Stage Design for 16-Bit Instruction Set Architecture. *2008 IEEE 8th International Conference on Computer and Information Technology Workshops*. https://doi.org/10.1109/cit.2008.workshops.107
4. Koivo, A. (1981). Microprocessor-based controller for pharmacodynamically applications. *IEEE Transactions on Automatic Control*, *26*(5), 1208–1213. https://doi.org/10.1109/tac.1981.1102788

6. Loui, M. C. (1988). The case for assembly language programming. *IEEE Transactions on Education*, *31*(3), 160–164. https://doi.org/10.1109/13.2306
7. Patterson, D. A., & Ditzel, D. R. (1980). The case for the reduced instruction

set computer. *ACM SIGARCH Computer Architecture News*, *8*(6), 25–33. https://doi.org/10.1145/641914.641917

8. *Research on Method of Mixture Programming of Assembly Language and C/C++ Language--《Journal of Suzhou Vocational University》2012年01期*. (n.d.). En.cnki.com.cn. Retrieved September 9, 2021, from https://en.cnki.com.cn/Article_en/CJFDTotal-SZSZ201201012.htm
9. Vinayak, Dr., Ranjan, V., Masiwal, N., & Verma, N. (2013). e-Restaurant: Online Restaurant Management System for Android. *International Journal of Advanced Computer Science and Applications*, *3*(1). https://doi.org/10.14569/specialissue.2013.030108
10. Wilson, J. G., Whittington, H. W., & Forde, M. C. (1983). Microprocessor-based system for automatic measurement of concrete resistivity. *Journal of Physics E: Scientific Instruments*, *16*(7), 700–705. https://doi.org/10.1088/0022-3735/16/7/031

APPENDIX

CODE

```
.MODEL LARGE
.STACK 1000H
.DATA
M1 DB 10,13,10,13,'              ****Welcome to Our Restaurant ****$',10,13
M2 DB 10,13,10,13,'Enter your Choice $'

M3 DB 10,13,'  **              1.Breakfast Menu         **$'
M4 DB 10,13,'  **              2.Lunch Menu            **$'
MS5 DB 10,13,'  **              3.Dinner Menu           **$'
M5 DB 10,13,'  **              4.Snacks               **$'
M6 DB 10,13,'  **              5.Dessert              **$'
M7 DB 10,13,'  **              6.Drinks               **$'


M8 DB 10,13,10,13,'***Choose your food from the menu***$'

;BREAKFAST
M9 DB 10,13, '  **          1.Tandoori Roti          10/-                  **$' ;breakfast
M10 DB 10,13,'  **          2.Naan                  10/-                 **$'
M11 DB 10,13,'  **          3.Parantha              10/-                 **$'
M12 DB 10,13,'  **          4.Dal                   10/-                 **$'
M13 DB 10,13,'  **          5.Mixed Vegetables       20/-                  **$'
M14 DB 10,13,'  **          6.Halwa                 20/-                 **$'
M15 DB 10,13,'  **          7.Sausage               10/-                 **$'
M16 DB 10,13,'  **          8.Fried Egg             20/-                 **$'
M17 DB 10,13,'  **          9.Dum Aloo              60/-                 **$'



;lunch & dinner

M25 DB 10,13,'  **  1.Karachi Biryani(Kebab+Egg)           90/-              **$'
M26 DB 10,13,'  **  2.Chicken Biryani(Kebab+Egg)           90/-              **$'
M27 DB 10,13,'  **  3.Plain Pulav                         30/-             **$'
M28 DB 10,13,'  **  4.Chicken Bhuna Khichdi(with Kebab+Egg)  90/-              **$'
M29 DB 10,13,'  **  5.Mutton Bhuna Khichdi(with Kebab+Egg)   90/-              **$'
M30 DB 10,13,'  **  6.Plain Rice                          10/-             **$'
M31 DB 10,13,'  **  7.Pabda Fish                          30/-             **$'
M32 DB 10,13,'  **  8.Lobster Big/Small                     30/-             **$'
M33 DB 10,13,'  **  9.Pomfret Fish                         30/-             **$'




;DINNER
```

```
M18 DB 10,13,'  **  1.Goat meat              60/-                          **$'
M19 DB 10,13,'  **  2.Chicken Bhuna Khichdi   80/-                          **$'
M20 DB 10,13,'  **  3.Mutton Bhuna Khichdi    80/-                          **$'
M21 DB 10,13,'  **  4.Chicken Lababdar        40/-                          **$'
M22 DB 10,13,'  **  5.Goat Curry             50/-                          **$'
M23 DB 10,13,'  **  6.Chicken Pan-Fry         70/-                          **$'
M34 DB 10,13,'  **  7.Hilsa Fish             60/-                          **$'
M35 DB 10,13,'  **  8.Rui Fish               60/-                          **$'
M36 DB 10,13,'  **  9.Molay/Kaski Fish        60/-                          **$'

;snacks

M41 DB 10,13,'  **  1.Kothu Parota     8/-               **$'
M42 DB 10,13,'  **  2.Shami Kabab      80/-              **$'
M43 DB 10,13,'  **  3.Aloo samosa      5/-               **$'
M44 DB 10,13,'  **  4.Chicken momo     5/-               **$'



;sweet meals
M45 DB 10,13,'  **  1.Faluda 50/-                        **$'
M46 DB 10,13,'  **  2.Puding 50/-                        **$'
M47 DB 10,13,'  **  3.Firnni 50/-                        **$'
M48 DB 10,13,'  **  4.Curd   50/-                        **$'



;Drinks
M49 DB 10,13,'  **  1.Soft Drinks  8/-                   **$'
M50 DB 10,13,'  **  2.Lassi        6/-                   **$'
M51 DB 10,13,'  **  3.Borhani      9/-                   **$'
M52 DB 10,13,'  **  4.Labang       9/-                   **$'
M53 DB 10,13,'  **  5.Coffee       7/-                   **$'
M54 DB 10,13,'  **  6.Tea          5/-                   **$'



;INVALID
M55 DB 10,13,10,13,'***  INVALID ENTRY  ***$'
M56 DB 10,13,'      ***  Try Again  ***$'



M57 DB 10,13,10,13,'Enter your order: $'
M58 DB 10,13,'Quantity: $'
M59 DB 10,13,'Total Price: $'


DRINK DB ?
QUANTITY DB ?
```

```
M60 DB 10,13,10,13,'1.Go Back to Main Menu$'
M61 DB 10,13,'2.EXIT$'

;STAR RESIZE


MR1 DB 10,13,'  **                                            **$'
MR2 DB 10,13,'  ***********************************************$'

MR3 DB 10,13,'  **                                            **$'


MR4 DB 10,13,'  **                                                                  **$'
MR5 DB 10,13,'  *********************************************************************$'



MR6 DB 10,13,'  **                                           **$'
MR7 DB 10,13,'  **********************************************$'


SEJ DB 10,13,10,13,' $'

.CODE
MAIN PROC
    MOV AX,@DATA
    MOV DS,AX
  TOP:

    LEA DX,M1
    MOV AH,9
    INT 21H

    LEA DX,SEJ ;NEWLINE
    MOV AH,9
    INT 21H

    LEA DX,MR2
    MOV AH,9
    INT 21H

    LEA DX,MR2
    MOV AH,9
    INT 21H     ;BORDER

    LEA DX,MR3
    MOV AH,9
    INT 21H
```

```
LEA DX,M3
MOV AH,9
INT 21H

LEA DX,M4
MOV AH,9
INT 21H

LEA DX,MS5
MOV AH,9
INT 21H

LEA DX,M5
MOV AH,9
INT 21H

LEA DX,M6
MOV AH,9
INT 21H

LEA DX,M7
MOV AH,9
INT 21H

LEA DX,MR1
MOV AH,9
INT 21H

LEA DX,MR2
MOV AH,9
INT 21H

LEA DX,MR2
MOV AH,9
INT 21H

LEA DX,M2
MOV AH,9
INT 21H



MOV AH,1
INT 21H
MOV BH,AL
SUB BH,48

CMP BH,1
JE BREATFAST
```

```
 CMP BH,2
 JE LD

 CMP BH,3
 JE DINNER


 CMP BH,4
 JE SNACKS


 CMP BH,5
 JE SWEATMEAT

 CMP BH,6
 JE DRINKS


 JMP INVALID




BREATFAST:


 LEA DX,M8     ;BREATFAST STARTS
 MOV AH,9
 INT 21H

 LEA DX,SEJ ;NEWLINE
 MOV AH,9
 INT 21H

 LEA DX,MR5
 MOV AH,9
 INT 21H


 LEA DX,MR5
 MOV AH,9
 INT 21H

 LEA DX,MR4
 MOV AH,9
 INT 21H

 LEA DX,M9     ;item 1
 MOV AH,9
 INT 21H
```

```
LEA DX,M10  ;item 2
MOV AH,9
INT 21H

LEA DX,M11
MOV AH,9          ;3nd
INT 21H

LEA DX,M12
MOV AH,9           ;4rd
INT 21H


LEA DX,M13          ;5th
MOV AH,9
INT 21H


LEA DX,M14      ;6th
MOV AH,9
INT 21H


LEA DX,M15
MOV AH,9           ;7th
INT 21H


LEA DX,M16         ;8th
MOV AH,9
INT 21H

LEA DX,M17          ;9th
MOV AH,9
INT 21H


LEA DX,MR4
MOV AH,9
INT 21H

LEA DX,MR5
MOV AH,9
INT 21H


LEA DX,MR5
MOV AH,9
INT 21H
```

```
LEA DX,M57
MOV AH,9
INT 21H


MOV AH,1
INT 21H
MOV BL,AL
SUB BL,48

CMP BL,1
JE TEN

CMP BL,2
JE TEN

CMP BL,3
JE TEN

CMP BL,4
JE TEN

CMP BL,5
JE TWENTY

CMP BL,6
JE TWENTY

CMP BL,7
JE TEN

CMP BL,8
JE TWENTY

CMP BL,9
JE SIXTY

;CMP BL,10
;JE SIXTY

;CMP BL,11
;JE EIGHTY

;CMP BL,12
;JE EIGHTY

;CMP BL,13
;JE FOURTY
```

```
 ;CMP BL,14
 ;JE FIFTY

 ;CMP BL,15
 ;JE  SEVENTY

 ;CMP BL,14
 ;JE SEVENTY

 JMP INVALID

FOURTY:
 MOV BL,4
 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H

 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H

 MOV DL,'0'
 INT 21H

 ;FOR /- PRINT
 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H

 ;GO BACK TO MAIN MENU

 LEA DX,M60
 MOV AH,9
 INT 21H

 LEA DX,M61
 MOV AH,9
 INT 21H

 LEA DX,M2
 MOV AH,9
 INT 21H            ;MAIN MENU

 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP

 JMP EXIT

FIFTY:
 MOV BL,4
 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H

 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H

 MOV DL,'0'
 INT 21H


 ;FOR /- PRINT
 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H


 ;GO BACK TO MAIN MENU

 LEA DX,M60
 MOV AH,9
 INT 21H

 LEA DX,M61
 MOV AH,9
 INT 21H

 LEA DX,M2
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48    ;MAIN  MENU



 CMP AL,1
 JE TOP

 JMP EXIT

SEVENTY:
 MOV BL,7
 LEA DX,M58
 MOV AH,9
```

```
INT 21H



MOV AH,1
INT 21H
SUB AL,48



MUL BL
AAM

MOV CX,AX
ADD CH,48
ADD CL,48


LEA DX,M59
MOV AH,9
INT 21H

MOV AH,2
MOV DL,CH
INT 21H


MOV DL,CL
INT 21H

MOV DL,'0'
INT 21H


;FOR /- PRINT
MOV DL,47
INT 21H
MOV DL,45
INT 21H

;GO BACK TO MAIN MENU

LEA DX,M60
MOV AH,9
INT 21H

LEA DX,M61
MOV AH,9
INT 21H

LEA DX,M2
```

```
 MOV AH,9
 INT 21H       ;MAIN MENU

 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP

 JMP EXIT

EIGHTY:
 MOV BL,8
 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H

 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H

 MOV DL,'0'
 INT 21H
```

```
;FOR /- PRINT
MOV DL,47
INT 21H
MOV DL,45
INT 21H

;GO BACK TO MAIN MENU

LEA DX,M60
MOV AH,9
INT 21H

LEA DX,M61
MOV AH,9
INT 21H

LEA DX,M2     ;MAIN MENU
MOV AH,9
INT 21H

MOV AH,1
INT 21H
SUB AL,48



CMP AL,1
JE TOP

JMP EXIT

JMP EXIT






LD:
            ;LUNCH AND DINNER
LEA DX,M8
MOV AH,9
INT 21H



LEA DX,SEJ ;NEWLINE
MOV AH,9
INT 21H

LEA DX,MR5
```

```
MOV AH,9
INT 21H


LEA DX,MR5
MOV AH,9
INT 21H
            ;STAR BORDER
LEA DX,MR4
MOV AH,9
INT 21H




LEA DX,M25              ;1th
MOV AH,9
INT 21H

LEA DX,M26              ;2th
MOV AH,9
INT 21H

LEA DX,M27              ;3rd
MOV AH,9
INT 21H

LEA DX,M28              ;4th
MOV AH,9
INT 21H

LEA DX,M29              ;5th
MOV AH,9
INT 21H


LEA DX,M30              ;6th
MOV AH,9
INT 21H

LEA DX,M31              ;7th
MOV AH,9
INT 21H

LEA DX,M32              ;8th
MOV AH,9
INT 21H

LEA DX,M33              ;9th
MOV AH,9
INT 21H
```

```
;LEA DX,M34            ;10th
;MOV AH,9
;INT 21H


;LEA DX,M35            ;11th
;MOV AH,9
;INT 21H

;LEA DX,M36            ;12th
;MOV AH,9
;INT 21H


;;LEA DX,M37            ;13th
;MOV AH,9
;INT 21H

;LEA DX,M38            ;13th
;MOV AH,9
;INT 21H

;LEA DX,M39            ;15th
;MOV AH,9
;INT 21H

;LEA DX,M40            ;16th
;MOV AH,9
;INT 21H


LEA DX,MR4
MOV AH,9
INT 21H
      ;STAR BORDER
LEA DX,MR5
MOV AH,9
INT 21H


LEA DX,MR5
MOV AH,9
INT 21H


LEA DX,M57
MOV AH,9
INT 21H
```

```
MOV AH,1
INT 21H
MOV BL,AL
SUB BL,48

CMP BL,1
JE NINETY

CMP BL,2
JE NINETY

CMP BL,3
JE THIRTY

CMP BL,4
JE NINETY

CMP BL,5
JE NINETY

CMP BL,6
JE TEN

CMP BL,7
JE THIRTY

CMP BL,8
JE THIRTY

CMP BL,9
JE THIRTY

;CMP BL,10
;JE SIXTY

;CMP BL,11
;JE SIXTY

;CMP BL,12
;JE SIXTY

;CMP BL,13
;JE SIXTY

;CMP BL,14
;JE THIRTY

;CMP BL,15
;JE  TWENTY

;CMP BL,14
```

```
 ;JE TWENTY

 JMP INVALID

TEN:
 MOV BL,1
 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H

 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H

 MOV DL,'0'
 INT 21H

 ;FOR /- PRINT
 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H

 ;GO BACK TO MAIN MENU

 LEA DX,M60
 MOV AH,9
 INT 21H

 LEA DX,M61
 MOV AH,9
 INT 21H

 LEA DX,M2
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP

 JMP EXIT




TWENTY:

 MOV BL,2
 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H
 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H

 MOV DL,'0'
 INT 21H

 ;FOR /- PRINT
 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H

 ;GO BACK TO MAIN MENU
 LEA DX,M60
 MOV AH,9
 INT 21H

 LEA DX,M61
 MOV AH,9
 INT 21H

 LEA DX,M2
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP

 JMP EXIT

THIRTY:

 MOV BL,3
 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
```

```
INT 21H
SUB AL,48



MUL BL
AAM

MOV CX,AX
ADD CH,48
ADD CL,48


LEA DX,M59
MOV AH,9
INT 21H

MOV AH,2
MOV DL,CH
INT 21H


MOV DL,CL
INT 21H

MOV DL,'0'
INT 21H

;FOR /- PRINT
MOV DL,47
INT 21H
MOV DL,45
INT 21H

;GO BACK TO MAIN MENU

LEA DX,M60
MOV AH,9
INT 21H

LEA DX,M61
MOV AH,9
INT 21H

LEA DX,M2
MOV AH,9
INT 21H

MOV AH,1
INT 21H
SUB AL,48
```

```
 CMP AL,1
 JE TOP

 JMP EXIT


SIXTY:

 MOV BL,6

 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H

 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H

 MOV DL,'0'
 INT 21H

 ;FOR /- PRINT
 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H

 ;GO BACK TO MAIN MENU

 LEA DX,M60
 MOV AH,9
 INT 21H

 LEA DX,M61
 MOV AH,9
 INT 21H              ;MAIN MENU

 LEA DX,M2
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP

 JMP EXIT


NINETY:
 MOV BL,9

 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48
```

```
LEA DX,M59
MOV AH,9
INT 21H

MOV AH,2
MOV DL,CH
INT 21H


MOV DL,CL
INT 21H

MOV DL,'0'
INT 21H

;FOR /- PRINT
MOV DL,47
INT 21H
MOV DL,45
INT 21H

;GO BACK TO MAIN MENU

LEA DX,M60
MOV AH,9
INT 21H

LEA DX,M61
MOV AH,9
INT 21H

LEA DX,M2
MOV AH,9
INT 21H

MOV AH,1
INT 21H
SUB AL,48



CMP AL,1
JE TOP

JMP EXIT
```

```
  JMP EXIT








DINNER:
  LEA DX,M8
  MOV AH,9         ;DINNER STARTS
  INT 21H

  LEA DX,SEJ ;NEWLINE
  MOV AH,9
  INT 21H


  LEA DX,MR5
  MOV AH,9
  INT 21H

  LEA DX,MR5
  MOV AH,9
  INT 21H      ;BORDER

  LEA DX,MR4
  MOV AH,9
  INT 21H



  LEA DX,M18         ;1th
  MOV AH,9
  INT 21H

  LEA DX,M19
  MOV AH,9              ;12th
  INT 21H


  LEA DX,M20          ;3th
  MOV AH,9
  INT 21H

  LEA DX,M21
  MOV AH,9               ;4th
  INT 21H
```

```
LEA DX,M22              ;5th
MOV AH,9
INT 21H


LEA DX,M23               ;6th
MOV AH,9
INT 21H


LEA DX,M34               ;10th
MOV AH,9
INT 21H


LEA DX,M35               ;11th
MOV AH,9
INT 21H

LEA DX,M36               ;12th
MOV AH,9
INT 21H



LEA DX,MR4
MOV AH,9
INT 21H

LEA DX,MR5   ;BORDER
MOV AH,9
INT 21H


LEA DX,MR5
MOV AH,9
INT 21H




LEA DX,M57
MOV AH,9
INT 21H


MOV AH,1
INT 21H
MOV BL,AL
SUB BL,48
```

```
 CMP BL,1
 JE SIXTY

 CMP BL,2
 JE EIGHTY

 CMP BL,3
 JE EIGHTY

 CMP BL,4
 JE FOURTY

 CMP BL,5
 JE FIFTY

 CMP BL,6
 JE SEVENTY

 CMP BL,7
 JE SIXTY

 CMP BL,8
 JE SIXTY

 CMP BL,9
 JE SIXTY

FOURTY1:
 MOV BL,4
 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
```

```
  INT 21H

  MOV AH,2
  MOV DL,CH
  INT 21H


  MOV DL,CL
  INT 21H

  MOV DL,'0'
  INT 21H

  ;FOR /- PRINT
  MOV DL,47
  INT 21H
  MOV DL,45
  INT 21H

  ;GO BACK TO MAIN MENU

  LEA DX,M60
  MOV AH,9
  INT 21H

  LEA DX,M61
  MOV AH,9
  INT 21H

  LEA DX,M2
  MOV AH,9
  INT 21H          ;MAIN MENU

  MOV AH,1
  INT 21H
  SUB AL,48



  CMP AL,1
  JE TOP

  JMP EXIT



FIFTY1:
  MOV BL,4
  LEA DX,M58
  MOV AH,9
  INT 21H
```

```
MOV AH,1
INT 21H
SUB AL,48



MUL BL
AAM

MOV CX,AX
ADD CH,48
ADD CL,48


LEA DX,M59
MOV AH,9
INT 21H

MOV AH,2
MOV DL,CH
INT 21H


MOV DL,CL
INT 21H

MOV DL,'0'
INT 21H


;FOR /- PRINT
MOV DL,47
INT 21H
MOV DL,45
INT 21H


;GO BACK TO MAIN MENU

LEA DX,M60
MOV AH,9
INT 21H

LEA DX,M61
MOV AH,9
INT 21H

LEA DX,M2
```

```
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48    ;MAIN  MENU



 CMP AL,1
 JE TOP

 JMP EXIT









SIXTY1:

 MOV BL,6

 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H

 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H

 MOV DL,'0'
 INT 21H

 ;FOR /- PRINT
 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H

 ;GO BACK TO MAIN MENU

 LEA DX,M60
 MOV AH,9
 INT 21H

 LEA DX,M61
 MOV AH,9
 INT 21H              ;MAIN MENU

 LEA DX,M2
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP

 JMP EXIT




SEVENTY1:
 MOV BL,7
 LEA DX,M58
 MOV AH,9
 INT 21H
```

```
MOV AH,1
INT 21H
SUB AL,48



MUL BL
AAM

MOV CX,AX
ADD CH,48
ADD CL,48


LEA DX,M59
MOV AH,9
INT 21H

MOV AH,2
MOV DL,CH
INT 21H


MOV DL,CL
INT 21H

MOV DL,'0'
INT 21H


;FOR /- PRINT
MOV DL,47
INT 21H
MOV DL,45
INT 21H

;GO BACK TO MAIN MENU

LEA DX,M60
MOV AH,9
INT 21H

LEA DX,M61
MOV AH,9
INT 21H

LEA DX,M2
MOV AH,9
INT 21H        ;MAIN MENU
```

```
 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP

 JMP EXIT

EIGHTY1:
 MOV BL,8
 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H

 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H

 MOV DL,'0'
 INT 21H

 ;FOR /- PRINT
 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H

 ;GO BACK TO MAIN MENU

 LEA DX,M60
 MOV AH,9
 INT 21H

 LEA DX,M61
 MOV AH,9
 INT 21H

 LEA DX,M2     ;MAIN MENU
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP

 JMP EXIT

 JMP EXIT









SNACKS:
 LEA DX,M8
 MOV AH,9         ;SNACKS STARTS
 INT 21H

 LEA DX,SEJ ;NEWLINE
 MOV AH,9
 INT 21H

 LEA DX,MR7
 MOV AH,9
 INT 21H
```

```
LEA DX,MR7
MOV AH,9
INT 21H     ;BORDER

LEA DX,MR6
MOV AH,9
INT 21H


LEA DX,M41              ;1th
MOV AH,9
INT 21H

LEA DX,M42              ;2th
MOV AH,9
INT 21H

LEA DX,M43              ;3th
MOV AH,9
INT 21H

LEA DX,M44              ;4th
MOV AH,9
INT 21H

LEA DX,MR6
MOV AH,9
INT 21H


LEA DX,MR7
MOV AH,9
INT 21H     ;BORDER

LEA DX,MR7
MOV AH,9
INT 21H

LEA DX,M57
MOV AH,9
INT 21H


MOV AH,1
INT 21H
MOV BL,AL
SUB BL,48

CMP BL,1
```

```
 JE L1

 CMP BL,2
 JE L2

 CMP BL,3
 JE L3

 CMP BL,4
 JE L3

 JMP INVALID


L1:
 MOV BL,8
 JMP L4

L2:
 MOV BL,8
 LEA DX,M58
 MOV AH,9
 INT 21H



 MOV AH,1
 INT 21H
 SUB AL,48



 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H

 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H
 MOV DL,'0'
 INT 21H

 ;FOR /- PRINT
 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H

 ;GO BACK TO MAIN MENU

 LEA DX,M60
 MOV AH,9
 INT 21H

 LEA DX,M61
 MOV AH,9
 INT 21H

 LEA DX,M2
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP

 JMP EXIT


L3:
MOV BL,5
JMP L4


L4:
 LEA DX,M58
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48
```

```
MUL BL
AAM

MOV CX,AX
ADD CH,48
ADD CL,48


LEA DX,M59
MOV AH,9
INT 21H

MOV AH,2
MOV DL,CH
INT 21H


MOV DL,CL
INT 21H

;FOR /- PRINT
MOV DL,47
INT 21H
MOV DL,45
INT 21H


;GO BACK TO MAIN MENU


LEA DX,M60
MOV AH,9
INT 21H

LEA DX,M61
MOV AH,9
INT 21H

LEA DX,M2
MOV AH,9
INT 21H

MOV AH,1
INT 21H
SUB AL,48



CMP AL,1
JE TOP
```

```
 JMP EXIT



SWEATMEAT:

 LEA DX,M8
 MOV AH,9        ;SWEAT MEAT    STARTS
 INT 21H

 LEA DX,SEJ ;NEWLINE
 MOV AH,9
 INT 21H

 LEA DX,MR7
 MOV AH,9
 INT 21H


 LEA DX,MR7
 MOV AH,9
 INT 21H     ;BORDER

 LEA DX,MR6
 MOV AH,9
 INT 21H

 LEA DX,M45              ;1th
 MOV AH,9
 INT 21H

 LEA DX,M46              ;2th
 MOV AH,9
 INT 21H

 LEA DX,M47              ;3th
 MOV AH,9
 INT 21H

 LEA DX,M48              ;4th
 MOV AH,9
 INT 21H


 LEA DX,MR6
 MOV AH,9
 INT 21H
```

```
LEA DX,MR7
MOV AH,9
INT 21H      ;BORDER

LEA DX,MR7
MOV AH,9
INT 21H


LEA DX,M57
MOV AH,9
INT 21H


MOV AH,1
INT 21H
MOV BL,AL
SUB BL,48

CMP BL,4
JG INVALID

LEA DX,M58
MOV AH,9
INT 21H

XOR BL,BL
MOV BL,5

MOV AH,1
INT 21H
SUB AL,48



MUL BL
AAM

MOV CX,AX
ADD CH,48
ADD CL,48


LEA DX,M59
MOV AH,9
INT 21H

MOV AH,2
MOV DL,CH
```

```
 INT 21H


 MOV DL,CL
 INT 21H

 MOV DL,'0'
 INT 21H

 ;FOR /- PRINT
 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H

 ;GO BACK TO MAIN MENU

 LEA DX,M60
 MOV AH,9
 INT 21H

 LEA DX,M61
 MOV AH,9
 INT 21H

 LEA DX,M2
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48



 CMP AL,1
 JE TOP






 JMP EXIT


DRINKS:
 LEA DX,M8
 MOV AH,9            ;DRINKS STARTS
 INT 21H

 LEA DX,SEJ ;NEWLINE
```

```
MOV AH,9
INT 21H

LEA DX,MR7
MOV AH,9
INT 21H


LEA DX,MR7
MOV AH,9
INT 21H     ;BORDER

LEA DX,MR6
MOV AH,9
INT 21H


LEA DX,M49              ;1th
MOV AH,9
INT 21H

LEA DX,M50              ;2th
MOV AH,9
INT 21H

LEA DX,M51              ;3th
MOV AH,9
INT 21H

LEA DX,M52              ;4th
MOV AH,9
INT 21H

LEA DX,M53              ;5th
MOV AH,9
INT 21H

LEA DX,M54              ;6th
MOV AH,9
INT 21H

LEA DX,MR6
MOV AH,9
INT 21H


LEA DX,MR7
MOV AH,9
INT 21H     ;BORDER

LEA DX,MR7
```

```
 MOV AH,9
 INT 21H

 LEA DX,M57
 MOV AH,9
 INT 21H


 MOV AH,1
 INT 21H
 MOV BL,AL
 SUB BL,48

 CMP BL,1
 JE SOFTDRINK

 CMP BL,2
 JE LASCHI

 CMP BL,3
 JE BORHANI

 CMP BL,4
 JE LABANG

 CMP BL,5
 JE COFFEE

 CMP BL,6
 JE TEA

 JMP INVALID

SOFTDRINK:
 MOV BL,8
 JMP COMMON

LASCHI:
 MOV BL,6
 JMP COMMON


BORHANI:
 MOV BL,9
 JMP COMMON

LABANG:
 MOV BL,9
 JMP COMMON
```

```
COFFEE:
 MOV BL,7
 JMP COMMON


TEA:
 MOV BL,5
 JMP COMMON




COMMON:
 LEA DX,M58
 MOV AH,9
 INT 21H

 MOV AH,1
 INT 21H
 SUB AL,48

 MUL BL
 AAM

 MOV CX,AX
 ADD CH,48
 ADD CL,48


 LEA DX,M59
 MOV AH,9
 INT 21H

 MOV AH,2
 MOV DL,CH
 INT 21H


 MOV DL,CL
 INT 21H


 MOV DL,47
 INT 21H
 MOV DL,45
 INT 21H

 ;GO BACK TO MAIN MENU

 LEA DX,M60
 MOV AH,9
```

```
    INT 21H

    LEA DX,M61
    MOV AH,9
    INT 21H

    LEA DX,M2
    MOV AH,9
    INT 21H

    MOV AH,1
    INT 21H
    SUB AL,48



    CMP AL,1
    JE TOP

    JMP EXIT:


   INVALID:

    LEA DX,M55
    MOV AH,9
    INT 21H


    LEA DX,M56
    MOV AH,9
    INT 21h

    JMP EXIT

     EXIT:

    MOV AH,4CH
    INT 21H
    MAIN ENDP
END MAIN
```