

# "PROJECT REPORT"

# COURSE: COMPUTER ORIENTED ASSEMBLY LANGUAGE

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# Project:

# "RESTURANT BILLING SYSTEM"

## Introduction:

This is a restaurant billing system project which has been created with the help of emu8086 (assembly language) software. A restaurant billing system is very much needed. It is found that the billing system and maintenance of records of the cashier is done manually using a file-based method in some restaurants. Therefore, we gave our attention to avoid this weakness by building a computerized system to replace the file-based system that will help the restaurant to give a more efficient, effective, productive service to the customer. Creating such a billing system will reduce their workload. Nowadays restaurants are filled with people so it's very difficult to manage all the work manually. That's why this kind of software is required. In this project we are making a billing system for the food items which people order and as they select the choices for the food they want. Their bill is printed automatically after the selection of their food and the program is terminated if they press the exit button.

# **Working:**

In this project first we will declare register space to be used for the program afterwards we will start writing the strings which will be implemented in the main procedure. The first string is the starting of the restaurant menu and then you have to make a choice from the menu options which include breakfast, lunch, dinner, snacks, dessert and drinks. After selecting from the category, it will display the menu of that category which you have selected. You can choose one item at a time from the menu of your category and after selecting that item its total will be calculated and then two options will arise which will say if press 1 to go back to main menu and press 2 to exit. If you want to have more items from the menu you have selected, you will press 1 and it will take you back to the main menu from where you can select more food options and as you select any food item your total will be generated.

When you feel that you have enough items to eat then you can press 2 for exit which will terminate the program. In the program we have also mentioned an invalid condition, for instance if the user presses the wrong choice which is not present in the menu category the program will prompt try again. Our project consists of different programming techniques in which we have used different labels, registers, and variables. We have also used compare, je, loops and jump instruction for better working of the program.

# Code:

print macro p1

\_lea dx,p1

\_mov ah,9

\_int 21h

endm

.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	**\$'
M4 DB 10,13,' **	2.Lunch	**\$'
MS5 DB 10,13,' **	3.Dinner	**\$'
M5 DB 10,13,' **	4.Snacks	**\$'
M6 DB 10,13,' **	5.Desserts	**\$'
M7 DB 10,13,' **	6.Drinks	**\$'

# M8 DB 10,13,10,13,'\*\*\*Choise your food from the menu\*\*\*\$'

## ;BREAKFAST

M9 DB 10,13,' \*\* \*\*\$';breakfast 1.Tanduri Roti 10/-M10 DB 10,13,' \*\* 2.Naan 10/-M11 DB 10,13,' \*\* 10/-3.Paratha M12 DB 10,13,' \*\* 4.Daal 10/-M13 DB 10,13,1 \*\* 5.Mixed Vegetables 20/-M14 DB 10,13,' \*\* 6.Halwa 20/-M15 DB 10.13.' \*\* 7.Lucha Paratha 10/-\*\*\$' M16 DB 10,13,' \*\* 8.Fried Egg 20/-M17 DB 10,13,' \*\*

9.Goats Feet

## ;lunch

M25 DB 10,13,' \*\* 1.Kachchi Birani(Kabab+Egg) 90/-M26 DB 10,13,' \*\* 2.Chicken Birani(Kabab+Egg) \*\*\$' 90/-M27 DB 10,13,' \*\* 3.Plain Pulao \*\*\$' 30/-M28 DB 10,13,1 \*\* 4.Chicken Bhuna Khichuri (with Kabab+Egg) 90/-M29 DB 10,13,1 \*\* 5. Mutton Bhuna Khichuri (with Kabab+Egg) 90/-M30 DB 10,13,' \*\* 6.Plain Rice 10/-M31 DB 10,13,' \*\* 7.Pabda Fish 30/-M32 DB 10,13,' \*\* 8.Lobstar Big/Small

30/-

60/-

M33 DB 10,13,' \*\* 9.Koi Fish 30/-

## ;DINNER

M18 DB 10,13,' \*\* 1.Goats Brain 60/- \*\*\$'

M19 DB 10,13,' \*\* 2.Chicken Bhuna Khichuri 80/- \*\*\$'

M20 DB 10,13,' \*\* 3.Mutton Bhuna Khichuri 80/- \*\*\$'

M21 DB 10,13,' \*\* 4.Chicken Liver/Kolija 40/- \*\*\$'

M22 DB 10,13,' \*\* 5.Goats Liver/Kolija 50/- \*\*\$'

M23 DB 10,13,' \*\* 6.Chicken Vuna 70/- \*\*\$

M34 DB 10,13,' \*\* 7.Hilsha 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.Moghol Porata 8/- \*\*\$'

M42 DB 10,13,' \*\* 2.Shami/Jali Kabab 80/- \*\*\$'

M43 DB 10,13,' \*\* 3.Singara 5/- \*\*\$'

M44 DB 10,13,' \*\* 4.Chicken Samucha 5/- \*\*\$'

## ;desserts

M45 DB 10,13,' \*\* 1.Faluda 50/- \*\*\$'

M46 DB 10,13,' \*\* 2.PudDing 50/- \*\*\$'

M47 DB 10,13,' \*\* 3.Firnni 50/- \*\*\$'

M48 DB 10,13,' \*\* 4.Curd 50/- \*\*\$'

## ;Drinks

## :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\$'

MR4 DB 10,13,' **	**\$'
MR5 DB 10,13,' ************************************	**************
SEJ DB 10,13,10,13,' \$'	
.CODE	
MAIN PROC	
_MOV AX,@DATA	
_MOV DS,AX	
TOP:	
_print M1	
maint CE LAIENAU INIE	
_print SEJ;NEWLINE	
_print MR2	
_print MR2 ;BORDER	
_print MR1	
_print M3	

_print M4
_print MS5
_print M5
_print M6
_print M7
_print MR1
_print MR2
_print MR2
_print M2
_MOV AH,1
_INT 21H
_MOV BH,AL
_SUB BH,48

_CMP BH,1
_JE BREAKFAST
_CMP BH,2
_JE LUNCH
_CMP BH,3
_JE DINNER
_CMP BH,4
_JE SNACKS
_CMP BH,5
_JE DESSERTS
_CMP BH,6
_JE DRINKS
_JMP INVALID
BREAKFAST:
_print M8 ;BREATFAST STARTS

_print SEJ;NEWLINE
_print MR5
_print MR5
_print MR4
_print M9 ;item1
_print M10 ;item 2
_print M11
_print M12
_print M13
_print M14
_print M15
_print M16 ;8th

_print M17	;9th
_print MR4	
_print MR5	
_print MR5	
_print M57	
_MOV AH,1	
_INT 21H	
_MOV BL,AL	
_SUB BL,48	
_CMP BL,1	
_JETEN	
_CMP BL,2	
_JETEN	
_CMP BL,3	
_JETEN	

_CMP BL,4
_JE TEN
_CMP BL,5
_JE TWENTY
_CMP BL,6
_JE TWENTY
_CMP BL,7
_JETEN
_CMP BL,8
_JE TWENTY
_CMP BL,9
_JE SIXTY
_JMP INVALID1
FOURTY:
_MOV BL,4

_print M58
_MOV AH,1
_INT 21H
_SUB AL,48
_MUL BL
_AAM
_MOV CX,AX
_ADD CH,48
_ADD CL,48
_print ,M59
_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	
_print M60	
_print M61	
_print M2 ;MAIN MENU	
_MOV AH,1	
_INT 21H	
_SUB AL,48	
_CMP AL,1	
_JETOP	
_CMP AL,2	
_JE EXIT	

_JMP INVALID0
FIFTY:
_MOV BL,4
_print M58
_MOV AH,1 _INT 21H _SUB AL,48
_MUL BL _AAM
_MOV CX,AX _ADD CH,48 _ADD CL,48
_print M59
_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
_print M60
_print M61
_print M2
_MOV AH,1
_INT 21H

_SUB AL,48 ;MAIN MENU
_CMP AL,1 _JETOP
_CMP AL,2 _JE EXIT
_JMP INVALID0
SEVENTY:
_MOV BL,7
_print M58
_MOV AH,1
_INT 21H
_SUB AL,48
_MUL BL _AAM

\_MOV CX,AX

_ADD CH,48
_ADD CL,48
_print 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

_print M60
_print M61
_print M2 ;MAIN MENU
_MOV AH,1
_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP
_CMP AL,2
_JE EXIT
_JMP INVALID0
EIGHTY:
_MOV BL,8
_print M58

_M0V AH,1
_INT 21H
_SUB AL,48
_MUL BL
_AAM
_MOV CX,AX
_ADD CH,48
_ADD CL,48
_print M59
_MOV AH,9
_INT 21H
_M0V 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
_print M60
_print M61
_print M2 ;MAIN MENU
_MOV AH,1
_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP
_CMP AL,2

_JE EXIT		
_JMP INVALID0		
LUNCH:		
;LUNCH _print M8		
_print SEJ;NEWLINE		
_print MR5		
_print MR5		
;STAR _print MR4	BOKDEK	
_print M25	;1th	
_print M26	;2th	
_print M27	;3rd	
_print M28	;4th	

_print M29	;5th
_print M30	;6th
_print M31	;7th
_print M32	;8th
_print M33	;9th
_print MR4	DDDDDD
;51A	R BORDER
_print MR5	
_print MR5	
_print M57	
_MOV AH,1	
_INT 21H	
_MOV BL,AI	_
_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
_JMP INVALID2
TEN:
_MOV BL,1
_print M58
_MOV AH,1
_INT 21H
_SUB AL,48
_MUL BL
_AAM
_MOV CX,AX
_ADD CH,48
_ADD CL,48
_print M59
_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
_print M60
_print M61
_print M2
_MOV AH,1

_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP
_CMP AL,2
_JE EXIT
_JMP INVALID0
TWENTY:
_MOV BL,2
print MEQ
_print M58
MOV AH,1
 _SUB AL,48
_MUL BL
_AAM

_ADD CH,48
_ADD CL,48
_print M59
_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

\_MOV CX,AX

_print M60
_print M61
_print M2
_MOV AH,1
_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP
_CMP AL,2
_JE EXIT
_JMP INVALID0
THIRTY:
_MOV BL,3
_print M58

_MOV AH,1
_INT 21H
_SUB AL,48
_MUL BL
_AAM
_MOV CX,AX
_ADD CH,48
_ADD CL,48
_print M59
_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
_print M60
_print M61
_print M2
_MOV AH,1
_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP
_CMP AL,2
_JE EXIT
_JMP INVALID0

SIXTY:
_MOV BL,6
_print M58
_MOV AH,1
_INT 21H
_SUB AL,48
_MUL BL
_AAM
_MOV CX,AX
_ADD CH,48
_ADD CL,48
_print M59
_MOV AH,2
_MOV DL,CH
_INT 21H

_MOV DL,CL	
_INT 21H	
_MOV DL,'0'	
_INT 21H	
_;FOR /- PRIN	Γ
_MOV DL,47	
_INT 21H	
_MOV DL,45	
_INT 21H	
_;GO BACK TO	MAIN MENU
_print M60	
_print M61	;MAIN MENU
print M2	
_print wiz	
_MOV AH,1	
_INT 21H	
_SUB AL,48	

_CMP AL,1
_JETOP
_CMP AL,2
_JE EXIT
_JMP INVALID0
NINETY:
_MOV BL,9
_print M58
_MOV AH,1
_INT 21H
_SUB AL,48
_MUL BL
_AAM
_MOV CX,AX
_ADD CH,48

_ADD CL,48
_print M59
_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
_print M60

_print M61
_print M2
_MOV AH,1
_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP
_CMP AL,2
_JE EXIT
_JMP INVALID0
DINNER:
_print M8
_print SEJ ;NEWLINE
_print MR5

\_print MR5 ;BORDER \_print MR4 \_print M18 ;1th \_print M19 \_print M20 \_print M21 \_print M22 ;5th \_print M23 ;6th \_print M34 ;10th \_print M35 ;11th \_print M36 ;12th \_print MR4

_print MR5 ;BORDER
_print MR5
_print M57
_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
_JE EIUNTT
_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	
_JMP INVALID3	
SNACKS:	
_print M8	
_print SEJ ;NEWLINE	
_print MR2	

_print MR2	;BORDER
_print MR1	
_print M41	;1th
_print M42	;2th
_print M43	;3th
_print M44	;4th
_print MR1	
_print MR2	;BORDER
_print MR2	
_print M57	
_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 INVALID4
L1:
_MOV BL,8
_JMP L4
L2:
_MOV BL,8
_print M58

_MOV AH,1
_INT 21H
_SUB AL,48
_MUL BL
_AAM
_MOV CX,AX
_ADD CH,48
_ADD CL,48
_print M59
_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
_print M60
_print M61
_print M2
_MOV AH,1
_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP
_CMP AL,2
_JE EXIT
_JMP INVALID0

L3:
_M0V BL,5
_JMP L4
L4:
_print M58
_MOV AH,1
_INT 21H
_SUB AL,48
_MUL BL
_AAM
_MOV CX,AX
_ADD CH,48
_ADD CL,48
_print M59
_MOV AH,2
_MOV DL,CH
_INT 21H
INT 21H

_MOV DL,CL
_INT 21H
_;FOR /- PRINT
_MOV DL,47
_INT 21H
_MOV DL,45
_INT 21H
_;GO BACK TO MAIN MENU
_print M60
_print M61
_print M2
_MOV AH,1
_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP

_CMP AL,2	
_JE EXIT	
_JMP INVAL	.ID0
DESSERTS:	
_print M8	
_print SEJ ;I	NEWLINE
_print MR2	
_print MR2	;BORDER
_print MR1	
_print M45	;1th
_print M46	;2th
_print M47	;3th

_print M48	;4th
_print MR1	
_print MR2	;BORDER
_print MR2	
_print M57	
_MOV AH,1	
_INT 21H	
_MOV BL,AL	
SUB BL,48	-
_CMP BL,4	
_JG INVALI	05
_LEA DX,M5	8
_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
_print M59
_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
_print M60
_print M61
_print M2
_MOV AH,1
_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP
_CMP AL,2
_JE EXIT

_JMP INVAL	LID0
DRINKS:	
_print M8	
_print SEJ ;I	NEWLINE
_print MR2	
_print MR2	;BORDER
_print MR1	
_print M49	;1th
_print M50	;2th
_print M51	;3th
_print M52	;4th
_print M53	;5th

_print M54	;6th
_print MR1	
_print MR2	;BORDER
_print MR2	
_print M57	
_MOV AH,1	
_INT 21H	
_MOV BL,AL	
_SUB BL,48	
_CMP BL,1	
_JE SOFTDR	INK
_CMP BL,2	
_JE LASCHI	
_CMP BL,3	
_JE BORHAI	NI

_CMP BL,4
_JE LABANG
_CMP BL,5
_JE COFFEE
_CMP BL,6
_JE TEA
_JMP INVALID6
SOFTDRINK:
SUFTURINK:
_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:
_print M58
_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
_print M60
_print M61
_print M2
_MOV AH,1
_INT 21H
_SUB AL,48
_CMP AL,1
_JETOP
_CMP AL,2
_JE EXIT
_JMP INVALID0
INVALIDO:
_print M55

_print M56	
_print M60	
_print M61	
_print M2	
_MOV AH,1	
_INT 21H	
_SUB AL,48	
_CMP AL,1	
_JETOP	
_CMP AL,2	
_JE EXIT	
_JMP INVALID0	
INVALID:	
_print M55	

_print M56
_JMP TOP
INVALID1:
_print M55
_print M56
_JMP BREAKFAST
INVALID2:
_print M55
_print M56
_JMP LUNCH
INVALID3:
_print M55

_print M56	
_JMP DINNER	
INVALID4:	
_print M55	
_print M56	
_JMP SNACKS	
INVALID5:	
_print M55	
_print M56	
_JMP DESSERTS	
INVALID6:	
_print M55	

```
_print M56
_JMP DRINKS
```

EXIT:

\_MOV AH,4CH

\_INT 21H

\_MAIN ENDP

**END MAIN** 

## Output:

```
*************
Enter your Choice 1
***Choise your food from the menu***
 ************************
 ××
            1.Tanduri Roti
2.Naan
3.Paratha
4.Daal
5.Mixed Vegetables
6.Halwa
7.Lucha Paratha
8.Fried Egg
9.Goats Feet
                                  10/-
                                  10/-
10/-
10/-
20/-
 ××
                                                        ××
 ××
                                                        ××
 ××
                                                        ××
                                                        ××
 **
                                                        ××
 ××
                                                        ××
 *********************************
Enter your order:
 1.Tanduri Roti
2.Naan
3.Paratha
4.Daal
5.Mixed Vegetables
6.Halwa
7.Lucha Paratha
8.Fried Egg
9.Goats Feet
                                10/-
10/-
10/-
10/-
20/-
20/-
 ××
 ××
 ××
                                 10/-
20/-
 ××
 ××
 ××
                                                      ××
 **************************
Enter your order: 6
Quantity: 6
Total Price: 120/-
1.Go Back to Main Menu
2.EXIT
Enter your Choice
      3.Borhani
      4.Labang
5.Coffee
  ××
                                                ××
  ××
      6.Tea
  *****************
  **********************************
Enter your order: 6
Quantity: 6
Total Price: 30/-
1.Go Back to Main Menu
2.EXIT
Enter your Choice 7
***&&INUALID ENTRY&&***
      ***&&Try Again&&***
1.Go Back to Main Menu
2.EXIT
Enter your Choice _
```

## Conclusion:

Through this project we can create a computerized system for the restaurant billing system. This system can store billing records securely and access them whenever required. The scope of the project in building a computerized system is handling restaurant records storing of restaurant records and enabling to view the records when desired. We have used different loops and repeat the functions so that the user can easily choose from the menu and buy the food item.