AISSMS
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Kennedy Road, Near RTO, Pune - 411001

Institute Code: 0141

MICRO PROJECT ON

"Develop a program to exchange the contents of two block of 10 data bytes using macro."

Course: Microprocessor

Corse Code: 22415

Academic Year: 2023-2024

Semester: Fourth (CO4I)

Submitted by:

Roll No.	Name of Students	Sign
1525	Shubham Giri	
1526	Rushi Gujarathi	
1527	Param Jadhav	

Name of Micro Project Guide: Mr. V. N. Kukre

All India Shri Shivaji Memorial Society's Polytechnic

COMPUTER ENGINEERING DEPARTMENT

VISION AND MISSION OF THE INSTITUTE

❖ **VISION:**

Achieve excellence in quality technical education by imparting knowledge, skills and abilities to build a better technocrat.

❖ **MISSION:**

M1: Empower the students by inculcating various technical and soft skills.

M2: Upgrade teaching-learning process and industry-institute interaction

VISION AND MISSION OF THE COMPUTER DEPARTMENT

❖ **VISION:**

"Enhance skills by providing value based technical education for fulfilling global needs in the field of computer engineering."

❖ **MISSION:**

M1: To provide quality education in computer engineering by improving psychomotor skills.

M2: To develop positive attitude, communication skills, team spirit and entrepreneurship.

M3: To develop awareness about societal and ethical responsibility for professionalism.

All India Shri Shivaji Memorial Society's Polytechnic

COMPUTER ENGINEERING DEPARTMENT

PROGRAM OUTCOMES (POs)

PO1 **Basic and Discipline specific knowledge:** Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

PO2 **Problem analysis:** Identify and analyze well-defined engineering problems using codified standard methods.

PO3 **Design/ development of solutions:** Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

PO4 **Engineering Tools, Experimentation and Testing:** Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

PO5 **Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices.

PO6 **Project Management:** Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

PO7 **Life-long learning:** Ability to analyze individual needs and engage in updating in the context of technological changes.

PROGRAM SPECIFIC OUTCOMES (PSO)

The Diploma in Computer Engineering will prepare students to attain:

PSO 1: Use state-of-the-art technologies for operation and application of computer software and hardware.

PSO 2: Maintain computer engineering related software and hardware systems.

CERTIFICATE

This is to certify that micro project entitled **'Develop a program to exchange the contents of two block of 10 data bytes using macro.'** is the bonafide work of Ms./Mr. **Shubham Giri, Rushi Gujarathi, Param Jadhav** Roll nos. **1525, 1526, 1527** of Second year diploma in **Computer Engineering** for the course: **Microprocessor** Course code: **22415** during academic year 2023-2024 who carried out the micro project under my supervision.

Mr. V. N. Kukre

Name & signature subject teacher

COs addressed by the Micro Project:

C22514.a: Analyze the functional block of 8086 Microprocessor
C22415.b: Write assembly language program for the given problem.
C22415.c: Use instructions for different addressing modes.
C22415.d: Develop an Assembly language program using Assembler.
C22415.e: Develop assembly language program procedures macro and modular programming approach.

Major Learning Outcomes achieved by students by doing the micro project:

   (a) Practical Outcomes:
1. Use Assembly Language Programming Tools and functions.
2. Use different addressing mode instruction in program.
3. Implement loop in Assembly language Program.
4. Write an assembly language program using macro.

   (b) Unit Outcomes in Cognitive domain

1c. State the function of given register of 8086 microprocessors.
2a. Describe the given steps of program development/execution.
2b. Write steps to develop a code for the given problem using assembly language programming.
2c. Use relevant command of debugger to correct the specified programming error.
2d. Describe function of the given assembler directives with example.
3b Describe the given addressing modes with examples.
3d. Identify the addressing mode of given instructions
3e Explain the operation performer by the given instruction during its execution.
4a. Use the given model of assembly language program for the given problem.
4b. Develop relevant program for the given problem.
4c. Apply relevant control loops in the program for the given problem.
5c.Develop an assembly language program using macro for the given problem.

   (c) Outcomes in Affective Domain

- Follow safety practices.
- Practice good housekeeping.
- Demonstrate working as a leader/a team member.
- Follow ethical practices.

Evaluation Sheet for the Micro Project

Academic Year: 2023-2024   **Name of Faculty:** Mr. V. N. Kukre

Course: Microprocessor

Course Code: 22415   **Semester:** 4-I-Scheme

Title of the Project: Develop a program to exchange the contents of two block of 10 data bytes using macro.

COs addressed by the Micro Project:

C22514.a: Analyze the functional block of 8086 Microprocessor

C22415.b: Write assembly language program for the given problem.

C22415.c: Use instructions for different addressing modes.

C22415.d: Develop an Assembly language program using Assembler.

C22415.e: Develop assembly language program procedures macro and modular programming approach.

Major Learning Outcomes achieved by students by doing the micro project:

(c) Practical Outcomes:

1. **Use Assembly Language Programming Tools and functions.**

(d) Unit Outcomes in Cognitive domain

1c. State the function of given register of 8086 microprocessors.

2a. Describe the given steps of program development/execution.

2b. Write steps to develop a code for the given problem using assembly language programming.

2c. Use relevant command of debugger to correct the specified programming error.

2d. Describe function of the given assembler directives with example.

3b Describe the given addressing modes with examples.

3d. Identify the addressing mode of given instructions

3e Explain the operation performer by the given instruction during its execution.

4a. Use the given model of assembly language program for the given problem.

4b. Develop relevant program for the given problem.

4c. Apply relevant control loops in the program for the given problem.

(c) Outcomes in Affective Domain

● Follow safety practices.

● Practice good housekeeping.

● Demonstrate working as a leader/a team member.

● Follow ethical practices.

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Comments/Suggestions about teamwork/leadership/interpersonal communication (if any):

More technical applications may be developed.

Roll No	Student Name	Marks out of 6 for performance in group activity (D5 :Col. 6)	Marks out of 4 for performance in oral / presentation (D5 :Col. 4)	Total out of 10
1525	Shubham Giri			
1526	Rushi Gujarathi			
1527	Param Jadhav			

Mr. V. N. Kukre

(Name & Signature of faculty)

ACKNOWLEDGEMENT

The success and final outcome of this project required a lot of guidance and assistance from many people and I am extremely privileged to have got this all along the completion of my project. All that I have done is only due to such supervision and assistance and I would not forget to thank them.

I respect and thank Mr. V. N. Kukre for providing me an opportunity to do the project work on the topic **"Develop a program to exchange the contents of two block of 10 data bytes using macro."** and giving us all support and guidance which made me complete the project duly. I am extremely thankful to all of my group members for providing such a nice support and guidance. I owe my deep gratitude to my friends and colleagues, who took keen interest on our project work and guided us all along, till the completion of our project work by providing all the necessary information for developing a good system.

I would not forget to remember my parents for their encouragement and more over for their timely support and guidance till the completion of our project work.

I am thankful to and fortunate enough to get constant encouragement, support and guidance from all Teaching staffs of [SY CO] which helped us in successfully completing our project work. Also, I would like to extend our sincere esteems to all staff in laboratory for their timely support.

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INDEX

Micro Project Proposal

'Develop a program to exchange the contents of two block of 10 data bytes using macro.'

1.0   Aims/Benefit of the Micro Project (Minimum 30-50 Words)**:**

1. Aims:
Exchange the contents of two block of 10 data bytes using macro.

2. Benefits:
1. Can use the Programming Development Steps to develop an Assembly Language Program.
2. Can use the Instruction Set of 8086 effectively.
3. Can easily adapt to the Instruction Set of any Microprocessor.
4. Can use program development tools effectively.
5. Can use the macro effectively.
6. Exchanging the contents of two blocks provides the benefits such as efficiency, low-level access, resource optimization, platform independence.

2.0   Course Outcomes Addressed:

1. C22514.a: Analyze the functional block of 8086 Microprocessor
2. C22415.b: Write assembly language program for the given problem.
3. C22415.c: Use instructions for different addressing modes.
4. C22415.d: Develop an Assembly language program using Assembler.
5. C22415.e: Develop assembly language program procedures macro and modular programming approach.

3.0   Proposed Methodology:

1. Study the Instruction Set of 8086 Microprocessor.
2. Use the Assembly Language Program Development Steps
3. Develop the Algorithm of the given Assembly Language Program.
4. Develop the Flowchart for the given Assembly Language Program
5. Initialize the checklist of the entire variables, constants, all the registers, flags and programmable ports in the program
6. Choose the appropriate instructions that perform the given problem's operations and tasks.
7. Convert the Algorithm into Assembly Language Program.
8. Debug the Assembly Language Program.
9. Verify the Result

4.0   Action Plan:

Sr. No.	Details of Activity	Planned Start Date	Planned Finish Date	Name of Responsible Team Members
1	Studied the Instruction Set of 8086 Microprocessor	6-01-2024	6-01-2024	All Members
2	Defined the Assembly Language Program	13-01-2024	13-01-2024	All Members
3	Discussed the Course Outcomes of the project	20-01-2024	20-01-2024	All Members
4	Discussion of the logic of the program among the group members is made.	20-01-2024	20-01-2024	Rushi
5	Developed the Algorithm of the given Assembly Language Program.	27-01-2024	27-01-2024	All Members
6	Verified the prepared Algorithm from the teacher	27-01-2024	27-01-2024	All Members
7	Developed the Flowchart for the given Assembly Language Program	03-02-2024	03-02-2024	All Members
8	Initialized the checklist of the entire variables, constants, all the registers, flags and programmable ports in the program	10-02-2024	10-02-2024	Param
9	Selected the appropriate instructions that performs the given problem's operations	10-02-2024	10-02-2024	All Members
10	Converted the Algorithm into Assembly Language Program.	17-02-2024	17-02-2024	Shubham
11	Debugged the Assembly Language Program and verified the result	24-02-2024	24-02-2024	All Members
12	Verified the Assembly Language Program from teacher	01-03-2024	01-03-2024	Rushi
13	Prepared the Micro-Project Report	08-03-2024	08-03-2024	All Members
14	Verified the Micro-Project Report from teacher	15-03-2024	15-03-2024	All Members
15	Copied the Assembly Language Program into DVD.	22-03-2024	22-03-2024	All Members
16	Submitted the Micro-Project	29-03-2024	29-03-2024	All Members

5.0   Resource Required:

Sr. No.	Name of Resource/Material	Specification	Qty.	Remark
1	Computer system	i5 with 2.4 GHz processor, Windows 10, 8GB Ram, 1 TB HDD	1	---
2	TASM (Turbo Assembler)	Version 1.4	-	---
3	TLINK (Turbo Linker)	Version 1.4	1	---
4	TD (Turbo Debugger)	Version 1.4	1	---
5	Microprocessor and interfacing (programming and hardware)	Author- Hall, Douglas V.	1	---

Name of Team Members with Roll Nos:

Sr. No	Name of Students	Roll No
1	Shubham Giri	
2	Rushi Gujarathi	
3	Param Jadhav	

Mr. V. N. Kukre

(Name & Signature of faculty)

Micro Project Report

'Develop a program to exchange the contents of two block of 10 data bytes using macro.'

1.0   Rationale/Abstract:

In computing & electronic systems, Exchanging the contents of two 10-byte data blocks in assembly language optimizes resource usage, ensures efficient execution, and allows for platform-independent implementation. It offers fine-grained control over hardware, enhancing understanding of computer architecture while providing a customizable, performance-oriented solution for microproject.

2.0   Aims/Benefits of the Micro Project:

  1. Aims:
  Exchange the contents of two block of 10 data bytes using macro.

  2. Benefits:
  1. Can use the Programming Development Steps to develop an Assembly Language Program.
  2. Can use the Instruction Set of 8086 effectively.
  3. Can easily adapt to the Instruction Set of any Microprocessor.
  4. Can use program development tools effectively.
  5. Can use the macro effectively.
  6.   Exchanging the contents of two blocks provides the benefits such as efficiency, low-level access, resource optimization, platform independence.

3.0   Course Outcomes Achieved:

  1. C22514.a: Analyze the functional block of 8086 Microprocessor
  2. C22415.b: Write assembly language program for the given problem.
  3. C22415.c: Use instructions for different addressing modes.
  4. C22415.d: Develop an Assembly language program using Assembler.
  5. C22415.e: Develop assembly language program procedures macro and modular programming approach

4.0   Literature Review:

  Reference:- www.tutorialspoint.com/Assembly Language/8086

  Macro:
  A macro is set of the program statements that can be reuse again and again by using macro name.

Procedure with example:-

1. First declare two array with 10 bytes number one is for Source and other is for destination.
2. The for exchange the content use exchange command(xchg)with the help of this command we exchange the content in si load in al register then again exchange the content of the al register to di that al load the content present in di[Destination].

Source array	25h,36h,37h,38h,39h,30h,31h,32h,33h,34h
Destination array	35h,36h,37h,38h,39h,40h,41h,42h,43h,44h
After Result: **Source array**	35h,36h,37h,38h,39h,40h,41h,42h,43h,44h
Destination array	**25h,36h,37h,38h,39h,30h,31h,32h,33h,34h**

For ex.in source array first number is 25h this number load in al register the using exchange command we load the al in di and di to al means destination register store the value 25 and again use the exchange instruction al to si means si store the number 35 Then inc si and di by one for going to next number and use loop for ten number.

5.0   Actual Methodology Followed: (Write stepwise work done, data collected and its analysis (if any). The contribution of individual member may also be noted.) **:**

1. Studied the Instruction Set of 8086 Microprocessor
2. Defined the Assembly Language Program
3. Discussed the Course Outcomes of the project
2. Discussion of the logic of the program among the group members is made.
3. Developed the Algorithm of the given Assembly Language Program.
4. Verified the prepared Algorithm from the teacher
5. Developed the Flowchart for the given Assembly Language Program
6. Initialized the checklist of the entire variables, constants, all the registers, flags and programmable ports in the program
7. Selected the appropriate instructions that perform the given problem's operations and tasks.
8. Converted the Algorithm into Assembly Language Program.
9. Debugged the Assembly Language Program and verified the result
10. Verified the Assembly Language Program from teacher
11. Prepared the Micro-Project Report
12. Verified the Micro-Project Report from teacher
13. Copied the Assembly Language Program into DVD.
14. Submitted the Micro-Project

6.0   Actual Resource Used:

Sr. No.	Name of Resource/Material	Specification	Qty.	Remark
1	Computer system	i5 , Windows 10, 8GB Ram, 1 TB HDD	1	---
2	Tasm (Turbo Assembler)	Version 1.4	-	---
3	Tlink (Turbo Linker)	Version 1.4	1	---
4	Td (Turbo Debugger)	Version 1.4	1	---

7.0   Outputs of the Micro project (Presentation of data, findings, drawing etc.)**:**

1. Algorithm:-

Step 1: start and Create macro and pass Argument for a1,a2.

Step 2: initialize memory pointer for source and initialize memory pointer for destination.

Step 3:Initialize byte counter.

Step 4: load number source array in al then exchange the content in [di] with content in al and exchange the content in [si] with content in al.

Step 5 :increment source and destination pointer by 1.

Step 6: check counter if not zero then loop up1.
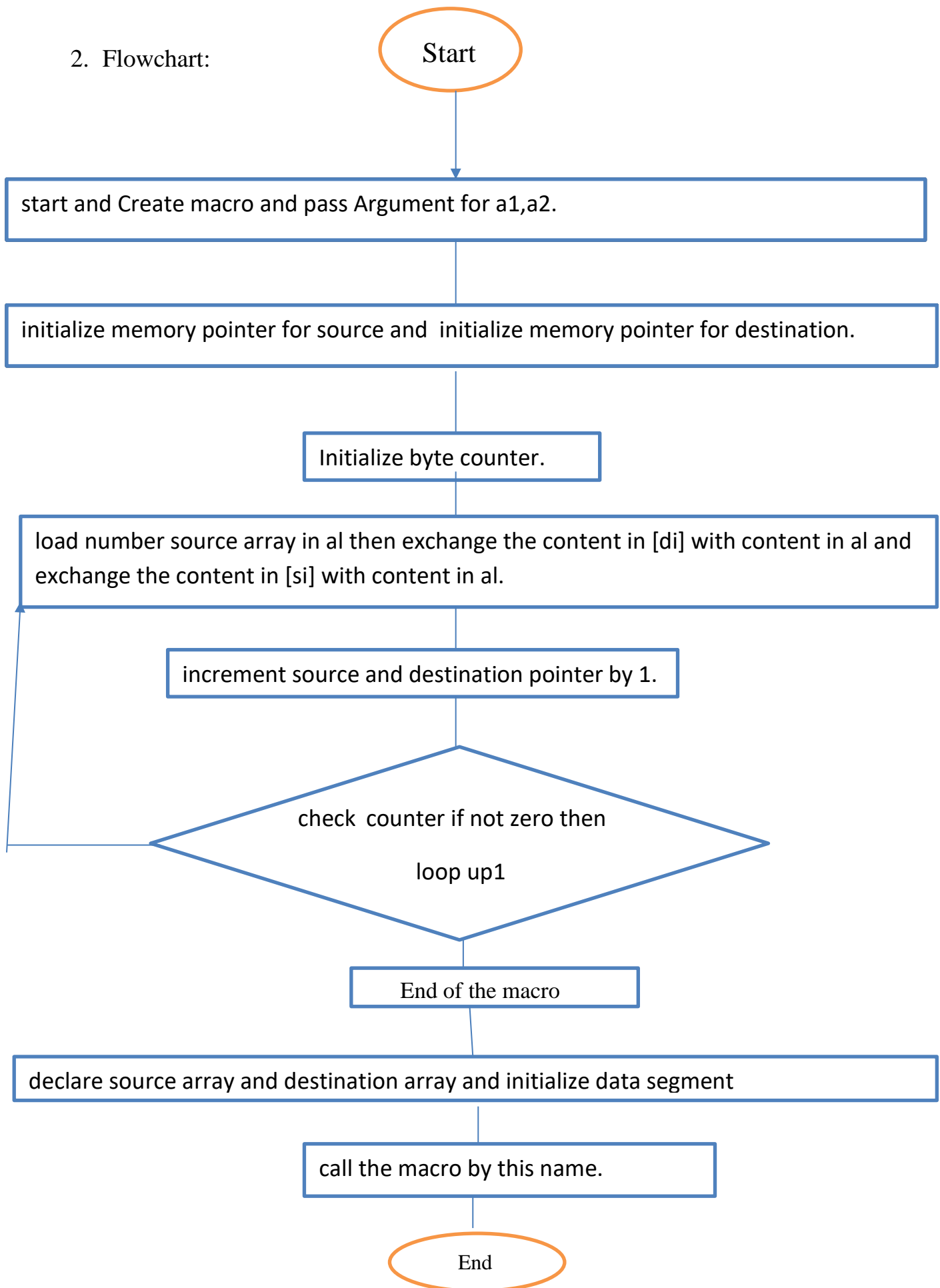
Step 7:end of the macro.

Step 8:declare source array and destination array.

Step 9:initalize data segment.

Step 10:call the macro by this name.

Step 11: end of the program

2. Flowchart:

```
                    ( Start )
                        |
                        v
+-----------------------------------------------------+
| start and Create macro and pass Argument for a1,a2. |
+-----------------------------------------------------+
                        |
                        v
+-----------------------------------------------------------------------+
| initialize memory pointer for source and  initialize memory pointer   |
| for destination.                                                      |
+-----------------------------------------------------------------------+
                        |
                        v
              +------------------------+
              | Initialize byte counter. |
              +------------------------+
                        |
                        v
+-----------------------------------------------------------------------+
| load number source array in al then exchange the content in [di] with |
| content in al and exchange the content in [si] with content in al.    |
+-----------------------------------------------------------------------+
                        |
                        v
         +---------------------------------------------+
         | increment source and destination pointer by 1. |
         +---------------------------------------------+
                        |
                        v
                  /\
                 /  \
                /    \
               < check counter if not zero then >
                \    loop up1                   /
                 \  /
                  \/
                        |
                        v
              +------------------------+
              |    End of the macro    |
              +------------------------+
                        |
                        v
+-----------------------------------------------------------------------+
| declare source array and destination array and initialize data segment |
+-----------------------------------------------------------------------+
                        |
                        v
              +------------------------+
              | call the macro by this name. |
              +------------------------+
                        |
                        v
                    ( End )
```

14

3. Program:

```
 File  Edit  Search  View  Options  Help
                      C:\TASM\BLOCK.ASM
.model small
block macro a1,a2

mov si,offset arr_s      ;initialize memory pointer for source
mov di,offset arr_d      ;initialize memory pointer for destination
mov cx,10                ;initialize the counter
up1: mov al,[si]         ;read number source array
     xchg [di],al        ;exchange the content in [di] with content in al
     xchg [si],al        ;exchange the content in [si] with content in al
     inc si              ;increment source pointer by 1
     inc di              ;increment destination pointer by 1
    loop up1             ;check counter if not zero then loop up1
endm                     ;end of the macro



.data
arr_s db 25h,26h,27h,28h,29h,30h,31h,32h,33h,34h   ;source array
arr_d db 35h,36h,37h,38h,39h,40h,41h,42h,43h,44h   ;destination array

.code
mov ax,@data             ;initalize data segment
mov ds,ax

block arr_s,arr_d        ;calling to macro

ends                     ;end of the segment
end                      ;end of the program

F1=Help                                          Line:28    Col:17
```

4.Output:
Before exchange the content of source and destination

After exchange the content of source and destination

```
 ≡  File   Edit   View   Run   Breakpoints   Data   Options   Window   Help      READY
=[■]=Dump                                                                   =2==[↕]=
  ds:0000  86 05 86 04 46 47 E2 F6 35 36 37 38 39 40 41 42  å♠å◆FGΓ÷56789@AB
  ds:0010  43 44 25 26 27 28 29 30 31 32 33 34 00 00 00 00  CD%&'()01234
  ds:0020  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0030  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0040  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0050  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0060  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0070  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0080  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0090  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:00A0  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:00B0  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:00C0  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:00D0  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:00E0  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:00F0  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0100  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0110  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0120  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0130  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  ds:0140  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
F1-Help F2-Bkpt F3-Mod F4-Here F5-Zoom F6-Next F7-Trace F8-Step F9-Run F10-Menu
```

Source no

Dest no

8.0   Skill developed / Learning outcome of the Micro-Project:

1. Develop the Programming Development Steps to develop an Assembly Language Program.
2. Use the Instruction Set of 8086 effectively.
3. Easily adapt to the Instruction Set of any Microprocessor.
4. Use program development tools effectively.

9.0   Applications of the Micro-Project:

1. Use to Develop a program to exchange the contents of two block of 10 data bytes using macro.

Mr. V. N. Kukre
(Name & Signature of faculty)

Micro Project Evaluation Sheet

Name of Student: Shubham Giri   **Enrollment No: 2201410262**

Name of Program: SYCO   **Semester:** CO-4-I

Course Title: Microprocessor   **Code:** 22415

Title of the Micro-project: Develop a program to exchange the contents of two block of 10 data bytes using macro.

Course Outcomes Achieved: -
1. C22514.a: Analyze the functional block of 8086 Microprocessor
2. C22415.b: Write assembly language program for the given problem.
3. C22415.c: Use instructions for different addressing modes.
4. C22415.d: Develop an Assembly language program using Assembler.
5. C22415.e: Develop assembly language program procedures macro and modular programming approach.

Sr No.	Characteristic to be accessed	Poor (Marks 1-3)	Average (Marks 4-5)	Good (Marks 6-8)	Excellent (Marks 9-10)	Sub Total
(A) Process and Product Assessment (Convert above total marks out of 6 Marks)						
1	Relevance to the course					
2	Literature Review/information collection					
3	Completion of the Target as per project proposal					
4	Analysis of Data and representation					
5	Quality of the Prototype/Model					
6	Report Preparation					
(B) Individual Presentation/ Viva (Convert above total marks out of 4 Marks)						
7	Presentation					
8	Viva					

(A) Process and Product Assessment (6 Marks)	(B) Individual Presentation/ Viva (4 Marks)	Total Marks 10

Comments/ suggestions about Teamwork/ Leadership/Interpersonal communication

…………………………………………………………………………………………………
…………………………………………………………………………………………………

Name and Designation of the Teacher…………………………………………………………

Dated Signature……………………………………………………………………………..

Micro Project Evaluation Sheet

Name of Student: Rushi Gujarathi **Enrollment No: 2201410263**

Name of Program: SYCO **Semester:** CO-4-I

Course Title: Microprocessor **Code:** 22415

Title of the Micro-project: Develop a program to exchange the contents of two block of 10 data bytes using macro.

Course Outcomes Achieved: -
1. C22514.a: Analyze the functional block of 8086 Microprocessor
2. C22415.b: Write assembly language program for the given problem.
3. C22415.c: Use instructions for different addressing modes.
4. C22415.d: Develop an Assembly language program using Assembler.
5. C22415.e: Develop assembly language program procedures macro and modular programming approach.

Sr No.	Characteristic to be accessed	Poor (Marks 1-3)	Average (Marks 4-5)	Good (Marks 6-8)	Excellent (Marks 9-10)	Sub Total
(A) Process and Product Assessment (Convert above total marks out of 6 Marks)						
1	Relevance to the course					
2	Literature Review/information collection					
3	Completion of the Target as per project proposal					
4	Analysis of Data and representation					
5	Quality of the Prototype/Model					
6	Report Preparation					
(B) Individual Presentation/ Viva (Convert above total marks out of 4 Marks)						
7	Presentation					
8	Viva					

(A) Process and Product Assessment (6 Marks)	(B) Individual Presentation/ Viva (4 Marks)	Total Marks 10

Comments/ suggestions about Teamwork/ Leadership/Interpersonal communication

……………………………………………………………………………………………………
……………………………………………………………………………………………………

Name and Designation of the Teacher…………………………………………………………………

Dated Signature……………………………………………………………………………………..

18

Micro Project Evaluation Sheet

Name of Student: Param Jadhav   **Enrollment No: 2201410267**

Name of Program: SYCO   **Semester:** CO-4-I

Course Title: Microprocessor   **Code:** 22415

Title of the Micro-project: Develop a program to exchange the contents of two block of 10 data bytes using macro.

Course Outcomes Achieved: -
1. C22514.a: Analyze the functional block of 8086 Microprocessor
2. C22415.b: Write assembly language program for the given problem.
3. C22415.c: Use instructions for different addressing modes.
4. C22415.d: Develop an Assembly language program using Assembler.
5. C22415.e: Develop assembly language program procedures macro and modular programming approach

Sr No.	Characteristic to be accessed	Poor (Marks 1-3)	Average (Marks 4-5)	Good (Marks 6-8)	Excellent (Marks 9-10)	Sub Total
(A) Process and Product Assessment (Convert above total marks out of 6 Marks)						
1	Relevance to the course					
2	Literature Review/information collection					
3	Completion of the Target as per project proposal					
4	Analysis of Data and representation					
5	Quality of the Prototype/Model					
6	Report Preparation					
(B) Individual Presentation/ Viva (Convert above total marks out of 4 Marks)						
7	Presentation					
8	Viva					

(A) Process and Product Assessment (6 Marks)	(B) Individual Presentation/ Viva (4 Marks)	Total Marks 10

Comments/ suggestions about Teamwork/ Leadership/Interpersonal communication

…………………………………………………………………………………………………

…………………………………………………………………………………………………

Name and Designation of the Teacher……………………………………………………………

Dated Signature……………………………………………………………………………………..

Log Book of Students

Academic Year: 2023-24

Name of Students: Shubham Giri, Rushi Gujarathi ,Param Jadhav

Title of the Project: Develop a program to exchange the contents of two block of 10 data bytes using macro.

Course: Microprocessor   **Course Code:** 22415   **Semester:** 4-I

Sr. No.	Date	Time	Work Done
1.	6-01-2024	6-01-2024	Studied the Instruction Set of 8086 Microprocessor
2.	13-01-2024	13-01-2024	Defined the Assembly Language Program
3.	20-01-2024	20-01-2024	Discussed the Course Outcomes of the project
4.	20-01-2024	20-01-2024	Discussion of the logic of the program among the group members is made.
5.	27-01-2024	27-01-2024	Developed the Algorithm of the given Assembly Language Program.
6.	27-01-2024	27-01-2024	Verified the prepared Algorithm from the teacher
7.	03-02-2024	03-02-2024	Developed the Flowchart for the given Assembly Language Program
8.	10-02-2024	10-02-2024	Initialized the checklist of the entire variables, all the registers, flags in the program.
9.	10-02-2024	10-02-2024	Selected the appropriate instructions that performs the given problem's operations
10.	17-02-2024	17-02-2024	Converted the Algorithm into Assembly Language Program.
11.	24-02-2024	24-02-2024	Debugged the Assembly Language Program and verified the result
12.	01-03-2024	01-03-2024	Verified the Assembly Language Program from teacher
13.	08-03-2024	08-03-2024	Prepared the Micro-Project Report
14.	15-03-2024	15-03-2024	Verified the Micro-Project Report from teacher
15.	22-03-2024	22-03-2024	Copied the Assembly Language Program into DVD.
16.	29-03-2024	29-03-2024	Submitted the Micro-Project

Mr. V. N. Kukre
Name and Signature of Teacher