

IGNOU | BCA

2023-2024

FREE

SOLVED

ASSIGNMENT




All In One

BCSL-022

Assembly Language Programming Lab

Prepared by



 730-339-3555

www.ignoustudymentor.com

@ism_ignoustudymentor_





ISM - IGNOU STUDY MENTOR

 Youtube Channel and

Get a Complete Solution
for IGNOU Students

SUBSCRIBE

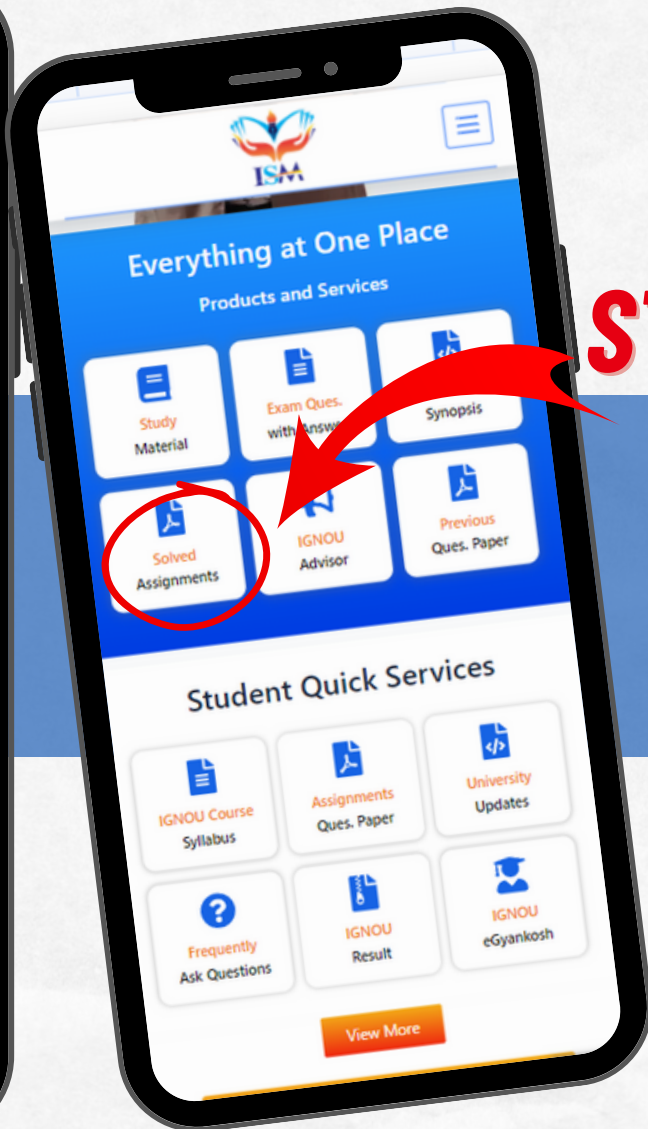
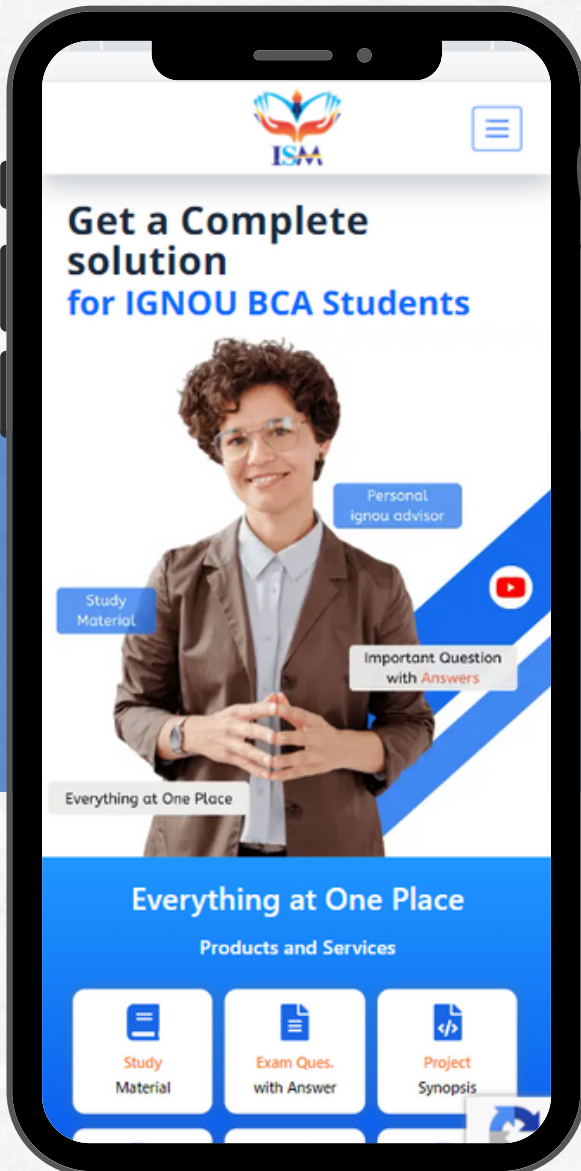


www.ignoustudymentor.com



STEP 1

 www.ignoustudymmentor.com 



STEP 2



Visit us: www.ignoustudymmentor.com



730-339-3555



BCSL-022

ASSEMBLY LANGUAGE PROGRAMMING LAB [SEM-2]


[Click to Join](#)

Ques.Q2.Perform the following using 8086 assembly language

(a)Write and run a program using 8086 assembly language that increments a byte value stored in a memory location by a value 2. The result should be the same memory location. for example, if a memory location contains 0101 0001, then the program will add 2 to this value and store the result 0101 0011 (after adding 2) in the same location.

```

ORG 100h ; Set the origin to 100h

MOV SI, 2000h ; SI register points to the memory location where the byte is stored
MOV AL, [SI] ; Load the byte value from the memory location into AL
ADD AL, 2 ; Add 2 to AL
MOV [SI], AL ; Store the result back into the same memory location

MOV AH, 4Ch ; DOS function to exit
INT 21h ; Call DOS

RET ; Return to DOS

TIMES 510-($-$$) DB 0 ; Fill the rest of the boot sector with zeros
DW 0xAA55 ; Boot signature
  
```

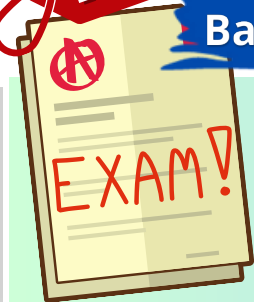
A Here's a breakdown of the program:

ORG100h: This sets the origin of the program to memory address 100h, which is when the program will start executing.

FREE

CLICK HERE

Baaki bche hue Questions ke Answers YouTube पर Milege



IGNOU SOLVED GUESS PAPER

Get IGNOU Important Questions with Answer, Video, PDF.



Visit us: www.ignoustudymentor.com



730-339-3555



BCSL-022

ASSEMBLY LANGUAGE PROGRAMMING LAB
[SEM-2]

Join for Doubt

MOVSI,2000h: This initializes the SI (source index) register to point to the memory location where the byte value is stored. You can replace 2000h with the actual memory address where your byte is stored.

MOV AL, [SI]: This loads the byte value from the memory location pointed to by SI into the AL register.

ADD AL, 2: This adds 2 to the value in AL, effectively incrementing it by 2.

MOV [SI], AL: This stores the result back into the same memory location pointed to by SI, overwriting the original value with the incremented value.

MOV AH, 4Ch, and INT21h: This is the DOS interrupt call to exit the program. It tells DOS that the program has finished executing.

RET: This is return instruction, although it's not strictly necessary in this program since it's designed to be run as a standalone program.

The TIMES and DW directives at the end are used to fill the rest of the boot sector with zeros and add the boot signature (0xAA55) to indicate that this is a bootable program.

FREE**CLICK HERE**Baaki bche हुए Questions के Answers  YouTube पर Milege**IGNOU SOLVED ASSIGNMENTS**

Get IGNOU Solved Assignments for all IGNOU courses



BCSL-022

**ASSEMBLY LANGUAGE PROGRAMMING LAB
[SEM-2]**[Click to Join](#)

Ques. (b) Write and run a program using 8086 assembly language which finds the highest of four byte values stored in memory. The highest value should be left in AL register.

```
ORG 100h ; Set the origin to 100h
```

```
MOV SI, 2000h ; SI register points to the memory location where the values are stored
```

```
MOV AL, [SI] ; Load the first byte value from memory into AL
```

```
MOV BL, AL ; Copy AL to BL for comparison
```

```
INC SI ; Move to the next memory location
```

```
MOV DL, [SI] ; Load the second byte value from memory into DL
```

```
CMP DL, BL ; Compare DL with BL (the current highest value)
```

```
JAE Skip1 ; Jump if DL is less than or equal to BL
```

```
MOV BL, DL ; If DL is greater, update BL with the new highest value
```

```
INC SI ; Move to the next memory location
```

```
MOV DH, [SI] ; Load the third byte value from memory into DH
```

```
CMP DH, BL ; Compare DH with BL
```

```
JAE Skip2 ; Jump if DH is less than or equal to BL
```

```
MOV BL, DH ; If DH is greater, update BL with the new highest value
```

```
INC SI ; Move to the next memory location
```

```
MOV AH, [SI] ; Load the fourth byte value from memory into AH
```

FREE**CLICK HERE**

Baaki bche hue Questions ke Answers  YouTube पर Milege

PC PDF

IGNOU STUDY MATERIAL

Get IGNOU All Types of Study Materials and Books.



Visit us: www.ignoustudymaterial.com



730-339-3555



BCSL-022

ASSEMBLY LANGUAGE PROGRAMMING LAB

[SEM-2]


[Join for Doubt](#)

```

CMP AH, BL ; Compare AH with BL
JAE Skip3 ; Jump if AH is less than or equal to BL
MOV BL, AH ; If AH is greater, update BL with the new highest value

Skip3:
Skip2:
Skip1:
MOV AL, BL ; Copy the highest value (in BL) to AL

MOV AH, 4Ch ; DOS function to exit
INT 21h ; Call DOS

RET ; Return to DOS

TIMES 510-($-$$) DB 0 ; Fill the rest of the boot sector with zeros
DW 0xAA55 ; Boot signature
  
```

Here's how the program works:

Initialize SI to point to the memory location where the values are stored.

Load the first-byte value from memory into AL and BL. BL is used to keep track of the highest value.

Compare the next byte value (DL) with the current highest value in BL. If DL is greater, update BL with the new highest value.

Repeat the process for the remaining two values (DH and AH), updating BL as necessary.



Baaki bche हुए Questions के Answers  YouTube पर Milege



IGNOU PROJECT & SYNOPSIS

Get IGNOU Project Report & Synopsis for all IGNOU Courses



Visit us: www.ignoustudymentor.com



730-339-3555



BCSL-022

**ASSEMBLY LANGUAGE PROGRAMMING LAB
[SEM-2]**[Click to Join](#)

Copy the highest value in BL to AL.

The program then exits using the DOS interrupt function (INT 21h).

Ques. (c) Write and run a program using 8086 assembly language that compares the values of AL and BL registers. In case AL is more than BL, then program clears BL register otherwise it clears AL register. You can move value '11001010' in AL register and '1100 1000' in BL register, initially.

```
ORG 100h ; Set the origin to 100h

MOV AL, 11001010b ; Load '1100 1010' into AL register
MOV BL, 11001000b ; Load '1100 1000' into BL register

CMP AL, BL ; Compare AL and BL
JA ClearBL ; Jump if AL is greater than BL
ClearAL:
XOR AL, AL ; Clear AL (set it to 0)
JMP EndProgram ; Jump to the end of the program
ClearBL:
XOR BL, BL ; Clear BL (set it to 0)

EndProgram:
MOV AH, 4Ch ; DOS function to exit
INT 21h ; Call DOS

RET ; Return to DOS

TIMES 510-($-$$) DB 0 ; Fill the rest of the boot sector with zeros
DW 0xAA55 ; Boot signature
```



Baaki bche हुए Questions के Answers  YouTube पर Milege

**IGNOU ADVISOR**

Touch with Personal ADVISOR to clear all types of doubt.



Visit us: www.ignoustudymmentor.com



730-339-3555



BCSL-022
ASSEMBLY LANGUAGE PROGRAMMING LAB
[SEM-2]



Join for Doubt

Here's how the program works:

Initially, '1100 1010' is loaded into the AL register, and '1100 1000' is loaded into the BL register.

The program then uses the CMP (compare) instruction to compare the values in AL and BL.

If AL is greater than BL (as determined by the "JA" or "Jump if Above" condition), the program clears the BL register by XORing it with itself, effectively setting it to 0. It then jumps to the end of the program.

If AL is not greater than BL, the program clears the AL register by XORing it with itself. It then proceeds to the end of the program.

Finally, the program exits using the DOS interrupt function (INT 21h).

ISMA



Baaki bche hue Questions ke Answers  YouTube par Milege

IGNOU PREVIOUS QUES. PAPER

Get IGNOU Exam Questions with Answer, Video, PDF.



Visit us: www.ignoustudymmentor.com



730-339-3555





Follow :

ism_ignoustudymentor_

Join Telegram Group :

ism_ignoustudymentor

 **Youtube Channel**

ISM - IGNOU Study MENTOR

Website

www.ignoustudymentor.com



730-339-3555

