SAAD UR REHMAN
19k-0218
SEC : C

LAB TASK 7

Q1. Use loop instruction to display decimal value till 15 and store this value in another array of size 15 and then display the stored array results in data register.

```
TITLE My First Program(lab.asm)
INCLUDE Irvine32.inc
.data
Array1 word 15 dup(?)
Array2 word 15 dup(?)
temp word 1 ;saad ur rehman(k19-0218)
.code
main PROC
mov esi,0       ;mov esi,OFFSET Array1
mov eax,0
mov ecx,LENGTHOF Array1
l1:
mov ax,temp
mov [Array1+esi],ax
add esi,TYPE Array1
inc temp
;call DumpRegs
loop l1

mov esi,0
mov ecx,LENGTHOF Array2
mov bx,0
l2:
mov bx,[Array1+esi]
mov [Array2+esi],bx
add esi,TYPE Array2
call DumpRegs
loop l2
exit
main ENDP
END main
```

```
Select C:\Windows\system32\cmd.exe

EAX=0000000F  EBX=00A20001  ECX=0000000F  EDX=009C1005
ESI=00000002  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


EAX=0000000F  EBX=00A20002  ECX=0000000E  EDX=009C1005
ESI=00000004  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


EAX=0000000F  EBX=00A20003  ECX=0000000D  EDX=009C1005
ESI=00000006  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1


EAX=0000000F  EBX=00A20004  ECX=0000000C  EDX=009C1005
ESI=00000008  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


EAX=0000000F  EBX=00A20005  ECX=0000000B  EDX=009C1005
ESI=0000000A  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1


EAX=0000000F  EBX=00A20006  ECX=0000000A  EDX=009C1005
ESI=0000000C  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1


EAX=0000000F  EBX=00A20007  ECX=00000009  EDX=009C1005
ESI=0000000E  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0
```

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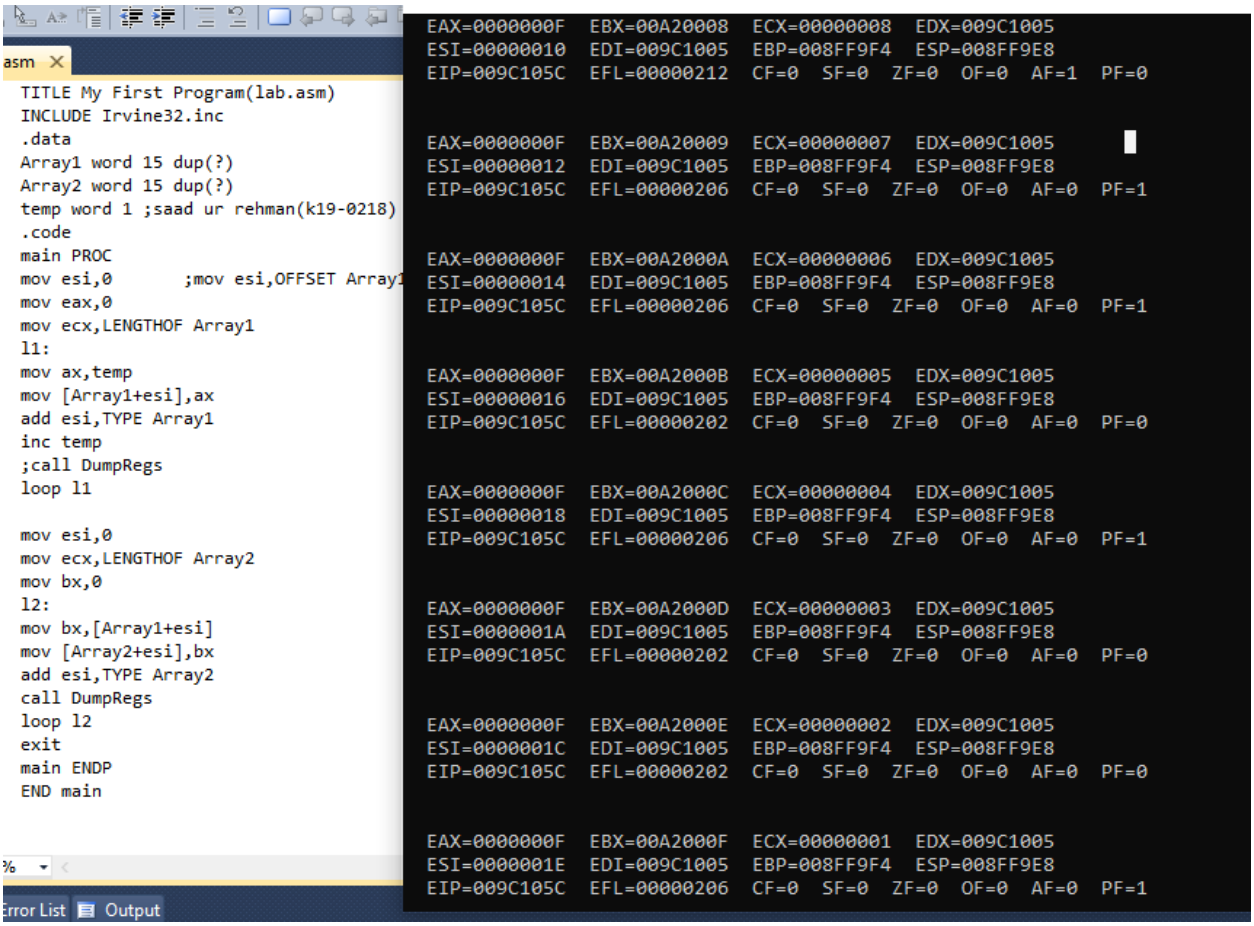

```
asm
TITLE My First Program(lab.asm)
INCLUDE Irvine32.inc
.data
Array1 word 15 dup(?)
Array2 word 15 dup(?)
temp word 1 ;saad ur rehman(k19-0218)
.code
main PROC
mov esi,0       ;mov esi,OFFSET Array1
mov eax,0
mov ecx,LENGTHOF Array1
l1:
mov ax,temp
mov [Array1+esi],ax
add esi,TYPE Array1
inc temp
;call DumpRegs
loop l1

mov esi,0
mov ecx,LENGTHOF Array2
mov bx,0
l2:
mov bx,[Array1+esi]
mov [Array2+esi],bx
add esi,TYPE Array2
call DumpRegs
loop l2
exit
main ENDP
END main
```

```
EAX=0000000F  EBX=00A20008  ECX=00000008  EDX=009C1005
ESI=00000010  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000212  CF=0  SF=0  ZF=0  OF=0  AF=1  PF=0

EAX=0000000F  EBX=00A20009  ECX=00000007  EDX=009C1005
ESI=00000012  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1

EAX=0000000F  EBX=00A2000A  ECX=00000006  EDX=009C1005
ESI=00000014  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1

EAX=0000000F  EBX=00A2000B  ECX=00000005  EDX=009C1005
ESI=00000016  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0

EAX=0000000F  EBX=00A2000C  ECX=00000004  EDX=009C1005
ESI=00000018  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1

EAX=0000000F  EBX=00A2000D  ECX=00000003  EDX=009C1005
ESI=0000001A  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0

EAX=0000000F  EBX=00A2000E  ECX=00000002  EDX=009C1005
ESI=0000001C  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0

EAX=0000000F  EBX=00A2000F  ECX=00000001  EDX=009C1005
ESI=0000001E  EDI=009C1005  EBP=008FF9F4  ESP=008FF9E8
EIP=009C105C  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1
```

Q2. Using a loop move incremental values in eax.

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```
TITLE MY FIRST PROGRAM(check.asm)
INCLUDE Irvine32.inc
.code
main PROC
mov eax,0
mov ecx,5
l1:; k19-0218 Saad ur rehman
inc eax
call DumpRegs
loop l1
exit
main ENDP
END main
```

```
C:\Windows\system32\cmd.exe

EAX=00000001  EBX=01103000  ECX=00000005  EDX=00A21005
ESI=00A21005  EDI=00A21005  EBP=012FFC1C  ESP=012FFC10
EIP=00A21020  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


EAX=00000002  EBX=01103000  ECX=00000004  EDX=00A21005
ESI=00A21005  EDI=00A21005  EBP=012FFC1C  ESP=012FFC10
EIP=00A21020  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


EAX=00000003  EBX=01103000  ECX=00000003  EDX=00A21005
ESI=00A21005  EDI=00A21005  EBP=012FFC1C  ESP=012FFC10
EIP=00A21020  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1


EAX=00000004  EBX=01103000  ECX=00000002  EDX=00A21005
ESI=00A21005  EDI=00A21005  EBP=012FFC1C  ESP=012FFC10
EIP=00A21020  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0


EAX=00000005  EBX=01103000  ECX=00000001  EDX=00A21005
ESI=00A21005  EDI=00A21005  EBP=012FFC1C  ESP=012FFC10
EIP=00A21020  EFL=00000206  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=1

Press any key to continue . . .
```

```
output from: Build
----- Build started: Project: M
 Assembling [Inputs]...
 LINK : C:\Users\saadu\document
 Mid.vcxproj -> C:\Users\saadu\
```

Q4 Write a program to calculate the factorial of the program

```
TITLE My First Program(check.asm)
INCLUDE Irvine32.inc
.data
temp WORD 6
.code
main PROC
mov ax,temp
mov bx,temp
dec bx
mov cx,bx
l1: ;19k-0218
dec temp
imul ax,temp

loop l1
call DumpRegs
exit
main ENDP
END main
```

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```
EAX=769902D0  EBX=7EFD0005  ECX=00000000  EDX=01091005
ESI=00000000  EDI=00000000  EBP=0014FB0C  ESP=0014FB04
EIP=01091038  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0

Press any key to continue . . .
```

Q5. :Use loop instruction to display 100 number in decimal and display them in register.

```
TITLE My First Program(check.asm)
INCLUDE Irvine32.inc
.code
main proc
mov ecx,5
mov ebx,0
L1:
push ecx
mov ecx, 20
L2:
inc ebx;19k-0218 Saad ur Rehman
loop L2
pop ecx
loop L1
call DumpRegs
exit
main ENDP
END main
```

```
C:\Windows\system32\cmd.exe

EAX=00CFFB10  EBX=00000064  ECX=00000000  EDX=004A1005
ESI=004A1005  EDI=004A1005  EBP=00CFFAC4  ESP=00CFFAB8
EIP=004A102B  EFL=00000202  CF=0  SF=0  ZF=0  OF=0  AF=0  PF=0

Press any key to continue . . .
```