TASK NO 1:

```
INCLUDE Irvine32.inc
.data

msg1 byte "Enter first numnber: ",0
msg2 byte "Enter second number: ",0
str1 db "First number is greater than Second Number!",0
str2 db "Second number is greater than First number!",0
num1 dword ?
num2 dword ?
.code
main PROC
mov edx,offset msg1
call writestring
call readint
mov num1,eax
call crlf
mov edx,offset msg2
call writestring
call readint
mov num2,eax
mov eax,num1
cmp eax,num2
ja Greater
call crlf
mov edx,offset str2
call writestring
call crlf
jmp done
Greater:
call crlf
mov edx,offset str1
call writeString
call crlf
done:
call crlf
call WaitMsg
call crlf
 exit
main ENDP

END main
```

OUTPUT:

TASK NO 2:

```
INCLUDE Irvine32.inc
.data

str1 byte "Enter first numnber: ",0
str2 byte "Enter second number: ",0
str3 byte "Enter third number: ",0
msg db "Smallest number of all three is --> ",0
val1 dword ?
val2 dword ?
val3 dword ?
.code
main PROC
mov edx,offset str1
call writestring
call readint
mov val1,eax
call crlf
mov edx,offset str2
call writestring
call readint
mov val2,eax
call crlf
mov edx,offset str3
call writestring
call readint
call crlf
mov val3,eax


mov eax,val1
cmp eax,val2
```

```
        jb comparing
        jmp Elsecompare
        comparing:
        cmp eax,val3
        jb N1
        jmp Elsecompare
        N1:
        mov edx,offset msg
        call writestring
        call writedec
        call crlf
        jmp done

        Elsecompare:
        mov eax,val2
        cmp eax,val3

        jb N2
        jmp lastElse

        N2:
        mov edx,offset msg
        call writestring
        call writedec
        call crlf
        jmp done

        lastElse:
        mov eax,val3
        mov edx,offset msg
        call writestring
        call writedec
        call crlf

        done:
        call crlf
        call WaitMsg

         exit
        main ENDP

        END main
```

OUTPUT:

TASK NO 3:

```
INCLUDE Irvine32.inc
.data
number byte "Enter a number: ",0
msg1 byte "The array contains the entered number. ",0
msg2 byte "The array does not contain the entered number. ",0
msg3 byte "The Array has elements -> 2,5,6,9,7,16 ",0
Num dword ?
array dword 2, 5, 6, 9, 12, 7, 16
.code
main PROC
mov ecx,lengthof array
mov edx,offset number
call writestring
call readint
call crlf
mov edx,offset msg2
call writestring
call crlf
mov Num,eax
mov esi,0
l1:
        mov ebx,array[esi]
        cmp Num,ebx
```
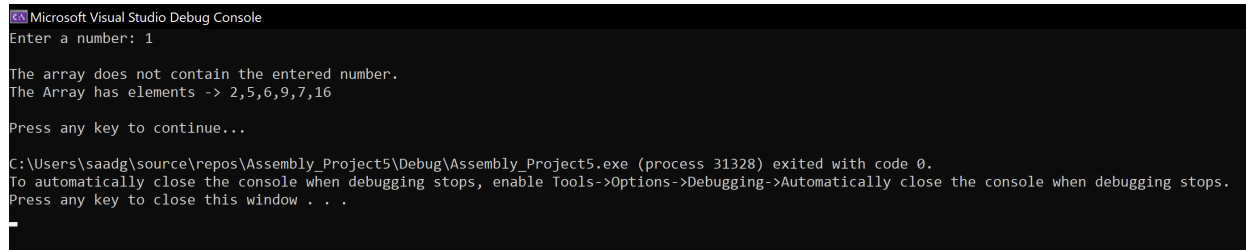
```
        je equal
        add esi,4
        loop l1
mov edx,offset msg3
call writestring
call crlf
jmp done
equal:
mov edx,offset msg1
call writestring
call crlf
jmp done
done:
call crlf
call WaitMsg
call crlf

 exit
main ENDP

END main
```
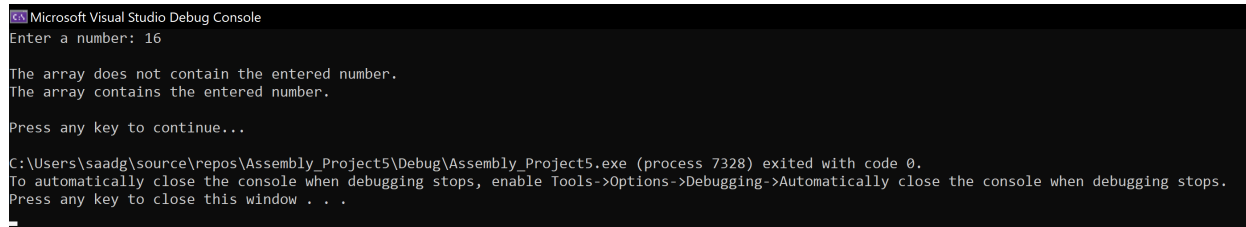
OUTPUT:

TASK NO 5:

```
INCLUDE Irvine32.inc
.data

str1 byte "Please input your age: ",0
msg1 byte "You are pretty Young! ",0
msg2 byte "You are really Old ",0
msg3 byte "You are Old ",0
age dword ?
.code
main PROC
mov edx,offset str1
call writestring
```

```asm
call readdec
call crlf
mov age,eax
cmp eax,100
jb msg4
je msg5
ja msg6

msg4:
mov edx,offset msg1
call writestring
call crlf
jmp done

msg5:
mov edx,offset msg2
call writestring
call crlf
jmp done

msg6:
mov edx,offset msg3
call writestring
call crlf
jmp done
done:


call crlf
call waitmsg
call crlf

 exit
main ENDP
END main
```
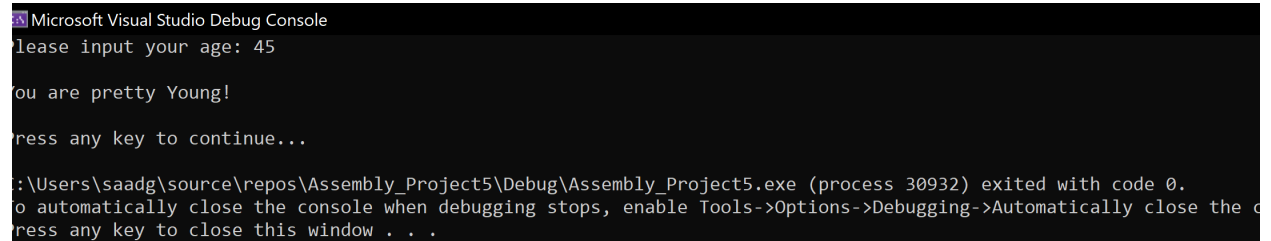
OUTPUT:

```
Microsoft Visual Studio Debug Console
Please input your age: 45

You are pretty Young!

Press any key to continue...

C:\Users\saadg\source\repos\Assembly_Project5\Debug\Assembly_Project5.exe (process 30932) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the c
Press any key to close this window . . .
```

TASK NO 6:

```
INCLUDE Irvine32.inc
.data
msg1 byte "Number is smaller than 100... ",0
msg2 byte "Number is greater than 50... ",0
number dword 90
.code
main PROC
call crlf
mov eax,number

cmp eax,100
jb below
jmp done

below:
mov edx,offset msg1
call writestring
call crlf

cmp eax,50
ja above
above:
mov edx,offset msg2
call writestring
call crlf
jmp done
done:

call crlf
call waitmsg
 exit
main ENDP
END main
```

OUTPUT:

TASK NO 7:

```
INCLUDE Irvine32.inc
.data
str1 byte "Enter num1: ",0
str2 byte "Enter num2: ",0
str3 byte "Enter num3: ",0
msg1 byte "num1 is greater than num2 or num3",0
msg2 byte "num1 is not greater than num2 or num3",0
num1 dword ?
num2 dword ?
num3 dword ?
.code
main PROC

mov edx,offset str1
call writestring
call readdec
mov num1,eax
call crlf

mov edx,offset str2
call writestring
call readdec
mov num2,eax
call crlf
mov edx,offset str3
call writestring
call readdec

mov num3,eax
call crlf

mov eax,num1
cmp eax,num2
ja greater
nextCheck:
cmp eax,num3
ja above
jmp hi
greater:
above:
mov edx,offset msg1
call writestring
jmp done
hi:
```

```
mov edx,offset msg2
call writestring
jmp done
done:
call crlf
call waitmsg
 exit
main ENDP
END main
```

OUTPUT:

TASK 8:

```
INCLUDE Irvine32.inc
.data
msg1 byte "Enter an Integer number between 1 & 99999:  ",0
msg2 byte "it's a three digit number",0
msg3 byte "it's a two digit number",0
msg4 byte "it's a four digit number",0
msg5 byte "its' a five digit number",0
msg6 byte "num is not between 1 & 99999",0
num dword ?
.code
main PROC
mov edx, offset msg1
call writestring
call readint
mov num,eax
cmp num,100
jl two
cmp num,1000
jl three
cmp num,10000
```
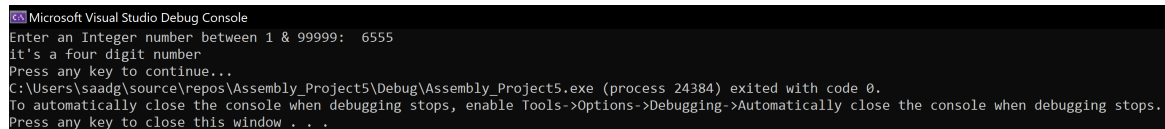
```
    jl four
    cmp num,100000
    jl five
    jae outOfRange
    mov edx,offset msg6
    call writestring
    jmp done
two:
    mov edx,offset msg3
    call writestring
    jmp done
three:
    mov edx,offset msg2
    call writestring
    jmp done
four:
    mov edx,offset msg4
    call writestring
    jmp done
five:
    mov edx,offset msg5
    call writestring
    jmp done
outOfRange:
    mov edx,offset msg6
    call writestring

done:
    call crlf
    call waitmsg
    exit
main ENDP
END main
```
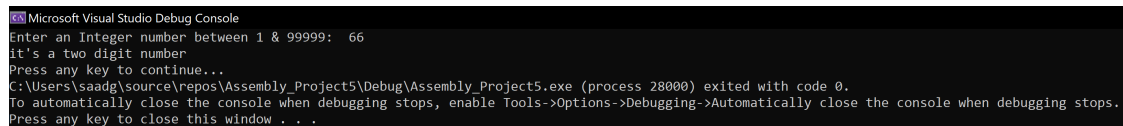
OUTPUT:


```
Microsoft Visual Studio Debug Console
Enter an Integer number between 1 & 99999:  6555
it's a four digit number
Press any key to continue...
C:\Users\saadg\source\repos\Assembly_Project5\Debug\Assembly_Project5.exe (process 24384) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```



```
Microsoft Visual Studio Debug Console
Enter an Integer number between 1 & 99999:  66
it's a two digit number
Press any key to continue...
C:\Users\saadg\source\repos\Assembly_Project5\Debug\Assembly_Project5.exe (process 28000) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

TASK NO 9:

```
INCLUDE Irvine32.inc
.data
msg1 byte "Enter your marks: ",0
```

```
msg2 byte "A grade",0
msg3 byte "B grade",0
msg4 byte "C Grade",0
msg5 byte "D Grade",0
msg6 byte"F Grade",0
msg7 byte "INVALID",0

num dword ?
.code
main PROC
mov edx,offset msg1
call writestring
call readdec

mov num,eax

cmp num,59
jng f
cmp num,69
jng d
cmp num,79
jng cResult
cmp num,89
jng b
cmp num,100
jng a
jmp invalid
f:
mov edx,offset msg6
call writestring
jmp done
d:
mov edx,offset msg5
call writestring
jmp done
cResult:
mov edx,offset msg4
call writestring
jmp done
b:
mov edx,offset msg3
call writestring
jmp done
a:
mov edx,offset msg2
call writestring
jmp done
invalid:
mov edx,offset msg7
call writestring
jmp done

done:
call crlf
call waitmsg

exit
main endp
```

END main

OUTPUT:


```
Microsoft Visual Studio Debug Console
Enter your marks: 90
A grade
Press any key to continue...
C:\Users\saadg\source\repos\Assembly_Project5\Debug\Assembly_Project5.exe (process 3936) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```



```
Microsoft Visual Studio Debug Console
Enter your marks: 15
F Grade
Press any key to continue...
C:\Users\saadg\source\repos\Assembly_Project5\Debug\Assembly_Project5.exe (process 33548) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```