

**COAL**

**LAB11**

**23K2001**

**BCS-3J**

Q1:

Lab11.asm

```
.data
Str1 BYTE "127&j~3#^&*#*45^",0
key BYTE "#", 0
res BYTE "'#' found at index: ", 0
index DWORD 0
```

```
.code
main PROC
    mov al, key
    mov edi, offset Str1
    mov ecx, lengthof Str1
    call scan_string
exit
main ENDP
```

```
scan_string PROC
    cld
    repne scasb
    jnz notfound
    sub edi, offset Str1
    dec edi
    mov index, edi
    jmp done
notfound:
    mov index, -1
done:
    mov edx, offset res
    call writestring
    mov eax, index
    call writedec
    call crlf
    ret
scan_string ENDP
```

Microsoft Visual Studio Debug

'#' found at index: 7

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Q2:

Lab11.asm

```
main PROC
    mov eax, 0
    mov al, key
    mov esi, offset Str1
    push esi
    push eax
    call scan_string
exit
main ENDP

scan_string PROC
    mov edi, [esp+8]
    mov al, [esp+4]
    mov ecx, lengthof Str1

    cld
    repne scasb
    jnz notfound

    sub edi, [esp+8]
    dec edi
    mov index, edi
    jmp done
notfound:
    mov index, -1
done:
    mov edx, offset res
    call writestring
    mov eax, index
    call writeint
    call crlf
    ret 8
scan_string ENDP
```



Microsoft Visual Studio Debug Console



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Q3:

```
Lab11.asm  X
37
38  isCompare proc
39      push ebp
40      mov ebp,esp
41
42      mov ecx, [ebp + 8]
43      mov edi, [ebp + 12]
44      mov esi, [ebp + 16]
45
46      cld
47      repz cmpsb
48      jz areEqual
49
50      mov edx, offset inequal
51      call writestring
52
53      done:
54      pop ebp
55      ret 12
56
57      areEqual:
58          mov edx, offset equal
59          call writestring
60          jmp done
61  isCompare endp
62
63  end main
```

Microsoft Visual Studio Debug Console

Input string (10 length max): Muzammil

Input string (10 length max): Muzammil

Strings are equal!

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le when debugging stops.

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Q4:

Lab11.asm

```
28  main endp
29
30  str_reverse proc
31      push ebp
32      mov ebp, esp
33
34      mov ecx, [ebp + 8]
35      mov edi, [ebp + 12]
36      mov esi, [ebp + 16]
37      add esi, ecx
38      dec esi
39
40      L1:
41          std
42          lodsb
43          cld
44          stosb
45      loop L1
46
47      mov byte ptr [edi], 0
48      pop ebp
49      ret 12
50  str_reverse endp
51
52  end main
```



Microsoft Visual Studio Debug Console



Input string (10 length max): Muzammil

limmazuM

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Q5:

Lab11.asm

```
31
32  load proc
33      push ebp
34      mov ebp,esp
35
36      mov edi,[ebp+16]
37      mov esi,edi
38      mov ecx,[ebp+12]
39      mov ebx,[ebp+8]
40      cld
41      loop1:
42          lodsd
43          imul ebx
44          stosd
45          dec ecx
46      cmp ecx,0
47      jnz loop1
48
49      pop ebp
50      ret 8
51  load endp
52
53  END main
```



Microsoft Visual Studio Debug Console



Input a number to multiply with: 27

27 54 81 108 135

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le when debugging stops.

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Q6:

target BYTE "AAEBDCFBBC",0

```
Lab11.asm  -p  X
37  getFrequency proc a1:ptr byte, a2:ptr DWORD
38      push ebp
39      mov ebp,esp
40
41      mov edi, [ebp+16]
42      mov esi, [ebp+12]
43
44      l1:
45          mov eax,0
46          lodsb
47
48          cmp al,0
49          jz retjmp
50
51          inc dword ptr [edi+(eax*4)]
52          inc ecx
53      jmp l1
54
55      retjmp:
56      pop ebp
57      ret 8
58  getFrequency endp
59
60  END main
```

Microsoft Visual Studio Debug Console

A => 2  
B => 3  
C => 2  
D => 1  
E => 1  
F => 1

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