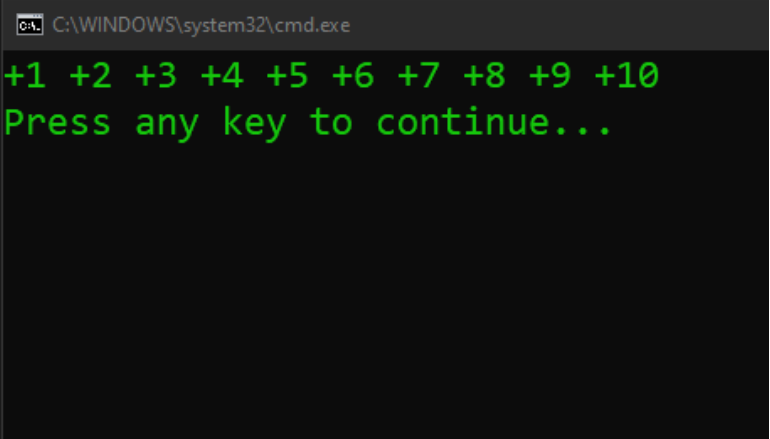# COAL Lab 05

Name: Sufiyaan Usmani
Roll No: 21K-3195
Section: BCS-3J
Instructor: Sir Kashan Hussain

Task 1:

```asm
; Sufiyaan Usmani
; 21K-3195
; BCS-3J
; Task 1

INCLUDE Irvine32.inc

.data
    i SDWORD ?

.code
    main PROC
        mov i, 1
        again:
            cmp i, 10
            jg done
            mov eax, i
            call WriteInt
            mov al, " "
            call WriteChar
            inc i
            jmp again
        done:
            call Crlf
            call WaitMsg
        exit
    main ENDP
    END main
```

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

+1 +2 +3 +4 +5 +6 +7 +8 +9 +10
Press any key to continue...
```
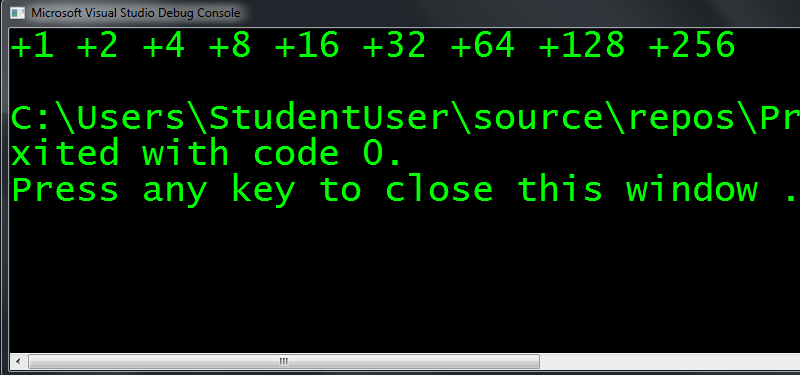
Task 2:

```
1   ; Sufiyaan Usmani
2   ; 21K-3195
3   ; BCS-3J
4   ; Task 2
5
6   INCLUDE Irvine32.inc
7
8   .data
9       i SDWORD ?
10
11  .code
12      main PROC
13          mov i, 0
14          again:
15              cmp i, 8
16              jg done
17              mov eax, i
18              call WriteInt
19              mov al, " "
20              call WriteChar
21              inc i
22              jmp again
23          done:
24              call Crlf
25              call WaitMsg
26          exit
27      main ENDP
28      END main
```

C:\WINDOWS\system32\cmd.exe

```
+0 +1 +2 +3 +4 +5 +6 +7 +8
Press any key to continue...
```
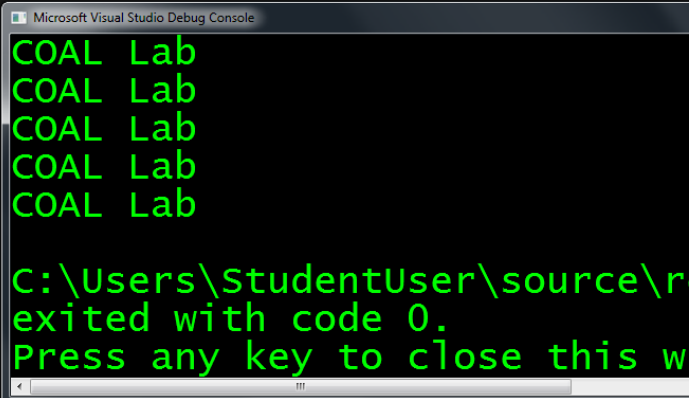
Task 3:

```asm
; Sufiyaan Usmani
; 21K-3195
; BCS-3J
; Task 3

INCLUDE Irvine32.inc

.data
    i SDWORD ?

.code
    main PROC
        mov i, 0
        again:
            cmp i, 8
            jg done
            mov eax, 1
            mov cl, BYTE PTR i
            shl eax, cl
            call WriteInt
            mov al, ' '
            call WriteChar
            inc i
            jmp again

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

```
Microsoft Visual Studio Debug Console

+1 +2 +4 +8 +16 +32 +64 +128 +256

C:\Users\StudentUser\source\repos\Pr
xited with code 0.
Press any key to close this window .
```

Task 4:

```asm
; Sufiyaan Usmani
; 21K-3195
; BCS-3J
; Task 4

INCLUDE Irvine32.inc

.data
    str1 BYTE "COAL Lab", 0

.code
    main PROC
        mov edx, OFFSET str1
        mov ecx, 5
        L1:
            call WriteString
            call crlf
        LOOP L1
        exit
    main ENDP
    END main
```

```
Microsoft Visual Studio Debug Console

COAL Lab
COAL Lab
COAL Lab
COAL Lab
COAL Lab

C:\Users\StudentUser\source\r
exited with code 0.
Press any key to close this w
```

Task 5:

```asm
; Sufiyaan Usmani
; 21K-3195
; BCS-3J
; Task 5

INCLUDE Irvine32.inc

.data
    msg BYTE "This is lab of nested loop", 0
    cols DWORD 5

.code
    main PROC
        mov edx, OFFSET msg
        call WriteString
        call Crlf
        mov ecx, cols
        outer:
            mov ebx, ecx
            mov ecx, cols
            inner:
                mov al, "@"
                call WriteChar
                mov al, " "
                call WriteChar
            LOOP inner
            call Crlf
            dec cols
            mov ecx, ebx
        LOOP outer
        exit
    main ENDP
```

This is lab of nested loop
@ @ @ @ @
@ @ @ @
@ @ @
@ @
@
Press any key to continue . . .