

COAL LAB 11

23K-0057 (BAI-4A)

Q1. TITLE My First Program (Test.asm)

```
INCLUDE Irvine32.inc
```

```
.data
```

```
.code
```

```
main PROC
```

```
mov ecx, 0
```

```
mov eax, 4
```

```
mov ebx, eax
```

```
shl eax, 4
```

```
add ecx, eax
```

```
mov eax, ebx
```

```
shl eax, 2
```

```
add ecx, eax
```

```
mov eax, ebx
```

```
add ecx, eax
```

```
mov eax, ecx
```

```
call WriteDec
```

```
exit
```

```
main ENDP
```

```
END main
```

84

C:\Users\DELL\source\repos\Project1\Debug\Project1.exe

Q2. TITLE My First Program (Test.asm)

```
INCLUDE Irvine32.inc
```

```
.data
```

```
.code
```

```
main PROC
```

```
mov eax, 0
```

```
mov ax, -128
```

```
call WriteBin
```

```
shl eax, 16
```

```
call crlf
```

```
call WriteBin
```

```
sar eax, 16
```

```
call crlf
```

```
call WriteBin
```

```
call crlf
```

```
call WriteInt
```

```
exit
```

```
main ENDP
```

```
END main
```

0000 0000 0000 0000 1111 1111 1000 0000

1111 1111 1000 0000 0000 0000 0000 0000

1111 1111 1111 1111 1111 1111 1000 0000

-128

C:\Users\DELL\source\repos\Project1\Debug\Project1.exe

Q3. TITLE My First Program (Test.asm)

```
INCLUDE Irvine32.inc
```

```
.data
```

```

.code
main PROC
mov eax, 10010011b
mov ebx, 01010011b
shr ax,1
rcr bx,1
call WriteBin
call crlf
mov ax,bx
call WriteBin

call crlf
call crlf

;with shrd
mov eax, 10010011b
mov ebx, 01010011b
shrd ax,bx,1
call WriteBin
call crlf
exit
main ENDP
END main

```

```

0000 0000 0000 0000 0000 0000 0100 1001
0000 0000 0000 0000 1000 0000 0010 1001

0000 0000 0000 0000 1000 0000 0100 1001

```

C:\Users\DELL\source\repos\Project1\Debug\Project1.exe

Q4. TITLE My First Program (Test.asm)

```

INCLUDE Irvine32.inc
.data
val1 dword 10
val2 dword 5
val3 dword 5
temp1 dword ?
temp2 dword ?
msg byte "Val1 = ",0
.code
main PROC
mov eax,val2
cdq
idiv val3
mov temp1,eax
mov eax,val1
cdq
idiv val2
mov temp2,eax
mov eax,temp1
imul eax,temp2
mov val1,eax
mov edx,offset msg
call WriteString
call WriteDec
exit
main ENDP
END main

```

Val1 = 2

C:\Users\DELL\source\repos\Project1\Debug\Project1.exe

Q5. TITLE My First Program (Test.asm)

```
INCLUDE Irvine32.inc
```

```
.data
```

```
num1 dword 12345678h ; lower
```

```
num2 dword 00000001h ; upper
```

```
num11 dword 87654321h ; lower
```

```
num22 dword 00000002h ; upper
```

```
result1 dword ?
```

```
result11 dword ?
```

```
.code
```

```
Extended_Add PROC
```

```
mov eax, num1
```

```
add eax, num11
```

```
mov result1, eax
```

```
mov eax, num2
```

```
adc eax, num22
```

```
mov result11, eax
```

```
ret
```

```
Extended_Add ENDP
```

```
main PROC
```

```
call Extended_Add
```

```
mov eax, result1 ; lower
```

```
call WriteHex
```

```
call crlf
```

```
mov eax, result11 ; upper
```

```
call WriteHex
```

```
call crlf
```

```
exit
```

```
main ENDP
```

```
END main
```

```
99999999
```

```
00000003
```

```
C:\Users\DELL\source\repos\Project1\Debug\Project1.exe
```