```
.data
align 4
var1 BYTE 0x12
var2 WORD 0x3456
var3 DWORD 0x789ABCDE
arr1 DWORD 10, 21, 30, 41, 50, 61, 70, 81, 90, 101
str1 BYTE "Assembly Programming", 0
matrix DWORD 4 DUP(4 DUP(?)) ; 4x4 Matrix
uninit DWORD ?
```

Answer the Questions below

1) Explain the effect of align 4 on var1, var2, and var3. You can create memory map and explain.

2) Write MASM procedure to initialize the 4x4 DWORD matrix with sequential values (1-16). Print the contents of the array using Irvine lib.

3) Implement a MASM procedure to copy arr1 into another array arr2 using indexed indirect addressing. Print the original array and the copied array using Irvine lib.

4) Write a MASM procedure so that only even numbers from arr1 are pushed onto the stack before reversing. Pop them into another array (arr3) in reverse order. Print the reverse array using Irvine lib.

2 3 4 are programming assignment, please submit MASM code.

Answer to Q1 can be uploaded as pdf handwritten, screen shot is fine.

Every correct answer is 10 marks each.

For 2 3 and 4 every procedure is 10 marks if printing does not work deduction on 2 marks per procedure.

If you code is compiling without errors however the results are incorrect you will receive 50% for the incorrect procedure.

Printing is basically traversing the array and using Irvine lib function to print all the info is available in chapter 5.

Be careful you are writing 3 procedures please commit your working code at every step.

You can add arr2 and arr3 in the data segment.