



Department of Computer Science and Engineering

LAB 06

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| Course Code: CSE341 | Credits: 1.5 |
| Course Name: Microprocessors | Semester: Fall 21 |

Arrays

Arrays are consecutive memory bytes.

Syntax: `array_name data_type values`

Example 1:

```
myarr db 10,45,49
```

```
myarr1 dw "hi this is me"
```

The combination of numbers and characters is also valid. They are stored as ascii values arrays are also saved in the data segment of the memory

Example 2:

Java Code: `int[] a = new int[5];`

Assembly:

| | | | |
|----------|-----------|------|-------------|
| a | db | 5 | dup(?) |
| variable | data_type | size | duplication |

dup(?) stands for filling the array with blank

dup(3) stands for filling the array with 3

Store values using index: For storing values you must be more or less clear about addressing modes (which has been discussed in theory). SI, DI and BX are the pointers of DS.

Example 3:

Java Code:

```
int [] a = {1,2,3,4,5};
for (int i = 0;i<a.length;i++){
    System.out.println(a[i]);
}
```

Assembly Code:

Using pointer

```
.data
a db 1,2,3,4,5
.code
mov cx,5
mov ah,2
lea si, a
start:
mov dl,[si]
int 21h
add si,1
loop start
```

Using Index

```
.data
a db 1,2,3,4,5
.code
mov cx,5
```

```
mov ah,2
mov si,0
start:
mov dl,a[si]
int 21h
add si,1
loop start
```