**CSCI 360 DS and DC Statements**

**To define empty storage (DS = Define Storage):**

Format: label DS rSLn

r repetition factor

- number of n length storage classes to repeat

- optional decimal number

- default: 1

Ln length

- n is the number of bytes of the storage area

- optional decimal number

- L must be coded if n is going to be specified

- default: depends on the storage class

S storage class

- type of data that will be stored

- two types

F - fullword data

- numbers to do arithmetic with

- default length: 4 bytes

- data type: 32-bit twos complement integer

- alignment: fullword boundary

absolute address divisible by 4

NUM1 DS F ==> 1 fullword ==> 4 bytes

NUM2 DS 5F ==> 5 fullwords ==> 20 bytes

NUM3 DS FL3 ==> 3 bytes

NUM4 DS 4FL2 ==> 8 bytes

C - Character data

- default length: 1 byte

- data type: EBCDIC characters (1 character/byte)

- alignment: none

TEXT1 DS CL4 ==> 4 bytes

TEXT2 DS 10CL6 ==> 60 bytes

TEXT3 DS 10C ==> 10 bytes

**To define a constant (DC = Define Constant):**

Format: label DC rSLn‘value’

r repetition factor

S storage class

Ln length

value constant (or initial) value

- enclosed in single quotes

In storage:

NUM1 DC F’27’ 0000001B

NUM2 DC F’-1’ FFFFFFFF

NUM3 DC F’2,-1,18' 00000002FFFFFFFF00000012

NUM4 DC 3F’1’ 000000010000000100000001

TEXT1 DC C’HELLO’ C8C5D3D3D6

TEXT2 DC CL8’HELLO’ C8C5D3D3D6404040

TEXT3 DC CL3’HELLO’ C8C5D3

TEXT4 DS CL4’BYE’ F5F5F5F5 <- empty storage

**NOTE:** a ‘value’ may be specified on a DS statement, but it will be ignored