

# **Linked Lists**

## Static and Dynamic Variables

- **Static Variables:**

- They are created during compilation. (Fixed memory is reserved for them.)
- They cannot be allocated / de-allocated during the execution of the program.
- Names are associated with them.

```
int x;  
char y[10];  
int z[100];
```

- **Dynamic Variables:**

- They are created (allocated) and de-allocated during the execution of the program.
- no names are associated with them. The only way to access them is to use pointers.
- They don't exist during compilation. Once they are created they contain data and must have a type like any other variable. Thus we can talk about creating a new dynamic variable of type  $x$  and setting a pointer to point to it, or returning a dynamic variable of type  $x$  to the system (de-allocation).

## A Conceptual View of Memory

