Arrays in C - Handout

Declaration: `int a[6];`

Indexing:  
- `a[0] = 0x015f;`
- `a[5] = a[0];`

No bounds  
- `a[6] = 0xBAD;`
checking:  
- `a[-1] = 0xBAD;`

Pointers:  
- `int* p;`
- equivalent: 
  
  ```
  p = a;
  p = &a[0];
  *p = 0xA;
  ```

- equivalent: 
  ```
  p[1] = 0xB;
  *(p+1) = 0xB;
  p = p + 2;
  ```

  ```
  *p = a[1] + 1;
  ```

Arrays are adjacent locations in memory storing the same type of data object

- `a` (array name) returns the array’s address

- `&a[i]` is the address of `a[0]` plus `i` times the element size in bytes