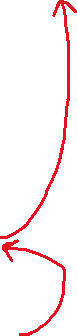
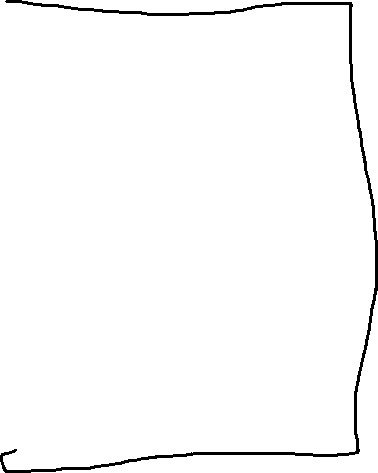
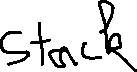
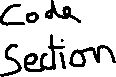
**Section 2: Essential C and C++ Concepts**

**3. Array Basics:**

* Collection of similar data.

**7. Pointers:**

* Pointer is an address variable used to store address of a data.
* Memory is divided as follows:



* Pointers are used for:
  + Accessing heap
  + Accessing resources
  + Parameter passing
* Declare pointer:   
  int\* pointerToAnInteger;  
  pointerToAnInteger = &anIntegerVariable; // & - Address of  
  cout << \*pointerToAnInteger; // \* - Dereference operator
* To get memory in heap: pointer = new int[5];
* All pointers regardless of what datatype the point to, take up the same space (usually 8 bytes).

**9. Reference in C++**

* Alias given to a variable.
* How?  
  int a = 10;  
  int &r = a;

Now “r” can be used in place of a.

* Useful in parameter passing.

**13. Functions:**

* Function is a piece of code (related instructions) that performs a specific task.
* Used for modular/procedural programming.

