

### **Four regions of Process memory:**

The four regions of process memory are text, which contains the executable program and is at the top of the process memory. Data, which contains global and static variables and memory is available in the program and comes in second in the process memory. Heap comes in third in the process memory/ It is where memory which we don't know if we need until certain situations arise in the program is stored. It accommodates the need for memory during execution of the program. The stack, which is where the data of functions is stored.

### **How stack memory works:**

Stack memory is where a program gets the storage for its local variables. Every function in the program has its own memory in a stack for its local variables, this is called a stack frame. Whenever a function is called, a new stack frame is generated. The operating system allocates process memory and regions of the process memory are set. When the main() begins, a stack frame is formed, the first one. Then when the next function is called, another stack frame is created. When a function ends, its stack frame is forgotten. Finally when the main() ends, its stack frame is forgotten as well and then the operating system deallocates the process memory.