|  |
| --- |
| Stack |
| Previously running function |
| … |
| … |
| … |
| Parameters of the called function:  Parameter1 |
| Parameter2 |
| … |
| Return address of the next instruction in caller function(PC, RIP) |
| Address of the memory last pointed by BP before calling(EBP, RBP) |
| Exception Handler frame (Optional) |
| … |
| … |
| Buffer for storing Local variables |
|  |
|  |

Parameter Accessing : RBP + k Local Variable Accessing : RBP - k

|  |
| --- |
| Kernel (Storage of System Calls, command-line arguments and Environment Variables) |
| Stack (Storage of Local Variables and handles Static Memory Allocations) |
| Heap (Storage of Global Variables Handles dynamic memory allocations) |
| Uninitialized Data Segment (Uninitialized Global Variables and Static Variables) |
| Initialized Data Segment (Initialized Global Variables and Static Variables) |
| Text (Storage of user defined programs after compilation and Global Constants) |

RAX = --

RAX = --

RAX = --

RAX = --

RAX = 1

RAX = 0

RAX = 6

RAX = 2

|  |
| --- |
| “3” |
| RIP0 |
| RBP0 |
| 3 |
| RIP1 |
| RBP1 |
| 2 |
| RIP2 |
| RBP2 |
| 1 |
| RIP3 |
| RBP3 |
|  |

|  |
| --- |
| RIP0 |
| RBP0 |
| 1 |
| 7 |
|  |
|  |
|  |
|  |