First time:

|  |  |  |  |
| --- | --- | --- | --- |
|  | j | K | l |
| Child 1 | 0x7ffeeec45a4c | 0x7ffeeec45a48 | 0x7ffeeec45a44 |
| Child 2 | 0x7ffeeec45a4c | 0x7ffeeec45a48 | 0x7ffeeec45a44 |
| Child 3 | 0x7ffeeec45a4c | 0x7ffeeec45a48 | 0x7ffeeec45a44 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | G\_first | G\_second | G\_third |
| Child 1 | 0x100fbb048 | 0x100fbb04c | 0x100fbb050 |
| Child 2 | 0x100fbb048 | 0x100fbb04c | 0x100fbb050 |
| Child 3 | 0x100fbb048 | 0x100fbb04c | 0x100fbb050 |

|  |  |
| --- | --- |
|  | parent |
| a | 0x7ffeeec45b18 |
| b | 0x7ffeeec45b14 |
| c | 0x7ffeeec45b10 |
| G\_first | 0x100fbb048 |
| G\_second | 0x100fbb04c |
| G\_third | 0x100fbb050 |

Second time:

|  |  |  |  |
| --- | --- | --- | --- |
|  | j | k | l |
| Child1 | 0x7ffeef4afa4c | 0x7ffeef4afa48 | 0x7ffeef4afa44 |
| Child2 | 0x7ffeef4afa4c | 0x7ffeef4afa48 | 0x7ffeef4afa44 |
| Child3 | 0x7ffeef4afa4c | 0x7ffeef4afa48 | 0x7ffeef4afa44 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | G\_first | G\_second | G\_third |
| Child1 | 0x100751048 | 0x10075104c | 0x100751050 |
| Child2 | 0x100751048 | 0x10075104c | 0x100751050 |
| Child3 | 0x100751048 | 0x10075104c | 0x100751050 |

|  |  |
| --- | --- |
|  | parent |
| a | 0x7ffeef4afb18 |
| b | 0x7ffeef4afb14 |
| c | 0x7ffeef4afb10 |
| G\_first | 0x100751048 |
| G\_second | 0x10075104c |
| G\_third | 0x100751050 |

Observations:

1. All the processes(both child and parent) have same address for the global variables.
2. All the child processes have the same address for local variables j,k,l

Explaination:

When child processes are created an exact copy of the memory map (virtual memory mapping)of the parent is made for each of the child processes. . Each process gets it’s own memory space in the physical memory. MMU maps the virtual address to the physical address. The above addresses we got are the virtual addresses of the variables.