**Assignment 3 – Question 1**

Table 0

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Memory Address** | **Value** |  | **Register** | **Value** |
| **0x230** | **0x23** |  | **%rdi** | **0x230** |
| **0x234** | **0x00** |  | **%rsi** | **0x234** |
| **0x235** | **0x01** |  | **%rcx** | **0x4** |
| **0x23A** | **0xed** |  | **%rax** | **0x1** |
| **0x240** | **0xff** |  |  |  |

Table 1

|  |  |  |
| --- | --- | --- |
| **Operand** | **Operand Value**  *expressed in hexadecimal* | **Operand Form**  *Choices are: Immediate, Register or one of the 9 Memory Addressing Modes* |
| **%rsi** | **0x234** | Register |
| **(%rdi)** | **0x23** | Indirect memory addressing mode |
| **$0x23A** | **0x23A** | Immediate value |
| **0x240** | **0xff** | Absolute direct memory addressing mode |
| **10(%rdi)** | **0xED** | “Base + displacement” memory addressing mode |
| **560(%rcx,%rax)** | **0x01** | Indexed Memory Addressing mode (base+index) |
| **-550(, %rdi, 2)** | **0xed** | Scaled Indexed (displacement + index x scale) |
| **0x6(%rdi, %rax, 4)** | **0xed** | Scaled Indexed (base + scaled index + displacement) |

Table 2

|  |  |  |
| --- | --- | --- |
| **Operand** | **Value**  *0x00 is a value,  not a memory address* | **Operand Form**  *Choices are: Immediate, Register or one of the 9 Memory Addressing Modes* |
| 0x234 | **0x00** | Absolute memory addressing mode |
| **(%rdi, %rax, 4)** | **0x00** | Scaled indexed memory addressing mode |
| **(%rdi, %rcx)** | **0x00** | Indexed memory addressing mode |