**ARCHITECTURE**

**INSTRUCTION SET**

Nebula must be contain the following instructions at the minimum

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| --- | --- | --- | --- |
| Mnemonic | Instruction | Arguments | Action |
| PUSH @Value | Pushes @Value to the top of the stack. | @Value | Stack[sp] = @Value |
| POP | Pops the top value off of the stack. |  | Stack[sp--] = 0; |
| SCLR | Clear all values from the stack, revert to 0 |  | For I = 0; I < stack.length; i++{  Stack[i] = 0  } |
| DIV | Divide value at top of stack, and return it to the same point. | Stack[sp] & Stack[sp-1] | Stack[sp-1] = Stack[sp]/Stack[sp-1] |
| MLT | Multiply value at top of stack, and return it to the same point. | **“ ”** | Stack[sp-1] = Stack[sp]\*Stack[sp-1]  Sp--; |
| ADD | Add value the two top values on the stack. | **“ ”** | Stack[sp-1] = Stack[sp]+Stack[sp-1]  Sp--; |
| SUB | Subtracts the value at the top of the stack, from the second’s value on the stack. | **“ ”** | Stack[sp-1] = Stack[sp]-Stack[sp-1]  Sp--; |
| CPRT | Prints ASCI Letter represented by the value at top of the Stack | Stack[sp] | Syso(S |
| IPRT | Prints the Integer value at the top of the Stack. | Stack[sp] | Syso((char) stack[sp]) |