Principle of Operation of a Computer Instruction Execution

```java
public class Interpreter
{
    static int PC;                          // Program counter holds the address of the next instruction
    static int AC;                          // Register for doing arithmetic, accumulator
    static int instruction;                 // Current instruction
    static int instructionType;             // Type of the current instruction, i.e. what to do
    static int dataLocation;                // Address of the data for the instruction
    static int data;                        // Holds the operand
    static boolean runBit = true;           // Bit used to halt the computer

    public static void interpreter(int memory[], int startingAddress)
    {
        PC = startingAddress;                               // Initialize the program
        while( runBit ) {
            instruction = memory[PC];                       // Fetch next instruction
            PC = PC + 1;                                    // Increment PC
            instructionType = getInstructionType(instruction);  // Determine instruction
            dataLocation = findData(instruction, instructionType);  // Locate data
            if( dataLocation >= 0 )                         // No operand if -1
                    data = memory[dataLocation];            // Fetch data
            execute(instructionType, data);                 // Execute instruction
        }
    }
}
```