### Reverse Engineering

It's a ART of dissecting and rebuild. Understand the inner working and its mechanism

# Methodology

#### **Compilation Process**

Source Code

Object File

Executable

#### Decompilation Process

Executable

Disassembly

Source Code

## Legal Aspects

- Reverse engineering legality governed copyright laws
- Different country will have different copyright laws
- Legal only in specific cases

#### Legal Activity

- Recovery own lost source code
- Recovery of data from legacy formats
- Malware analysis and research
- Security and Vulnerability research

#### Illegal Activity

- Reverse engineering competing product and sell it
- Crack copy protections
- Distribute crack / registration for copyrighted software
- Gained unauthorized access to any computer

### Skills

- Understanding of computer architecture and organization
- Assembly programming
- Operating Systems Internals (e.g. Windows Internals)
- File Formats (e.g. Portable Executable (PE))
- Logic thinking and Research skills

### Reverse Code Engineering

# Static Analysis

- Read disassembly code
- Search for strings
- Analyzing without executing the program
- Basically it's all about "strings"

### Dynamic Analysis



- Debug the code
- Step thru the code, study how it executes and what it does
- Fast results and accurate