

What is a Recipe (Program)

- sequence of simple **steps**
- **flow of control** process that specifies when each step is executed
- a means of determining **when to stop**





What is a Recipe (Program)

- how to capture a **recipe** in a mechanical process
 - **store program** in the computer's memory
 - **executes** the program which consists of instructions

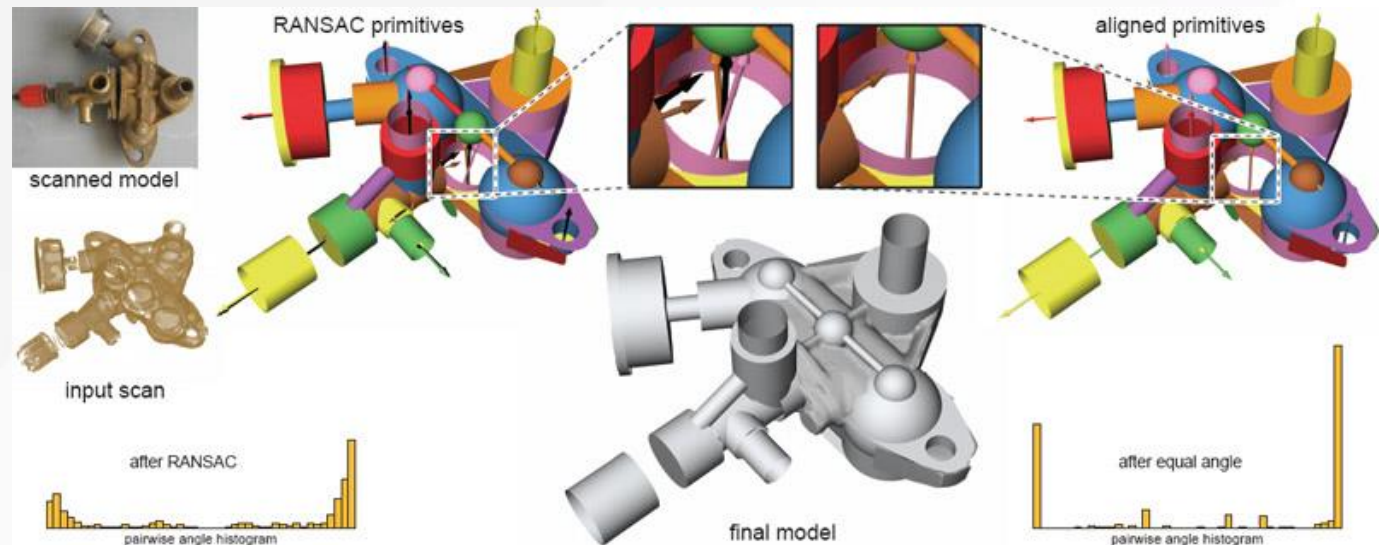


Instructions for Program

- **Program stored** inside computer built from **predefined set of primitive instructions**
 - arithmetic and logic calculation
 - Storing and moving data
- **A special program** (called interpreter) **executes each instruction in the program in order**

Basic Primitives

- modern programming languages (C, C++, Java, Python) have **convenient set of primitives**
- anything computable in one language is computable **in any other programming language**



Creating Recipes (Program)

- a programming language provides **a set of primitive operations**
- **primitives maybe with complex but legal expressions** in a programming language
- **And expressions have values** in a programming language

A program can be typed directly in a **shell** or stored in a **file** that is read into the shell and executed.

```
def __init__(self, symbol, modifiers):
    if self.context_index == -1:
        if symbol == key.UP and not self.active_index == 0:
            self.menu_labels[self.active_index].color = (255, 255, 255, 255)
            self.active_index -= 1
            self.mags_dt = self.get_act_color_mag()
        elif symbol == key.DOWN and not self.active_index == 3:
            self.menu_labels[self.active_index].color = (255, 255, 255, 255)
            self.active_index += 1
            self.mags_dt = self.get_act_color_mag()
        elif symbol == key.ENTER:
            if self.active_index == 3:
                pygame.app.exit()
            else:
                self.context_index = self.active_index
        elif symbol == key.ESCAPE:
            if self.context_index == -1:
                pygame.app.exit()
            else:
                self.context_index = -1
    elif self.context_index == 1:
        if symbol == key.ESCAPE:
            self.context_index = -1
```