

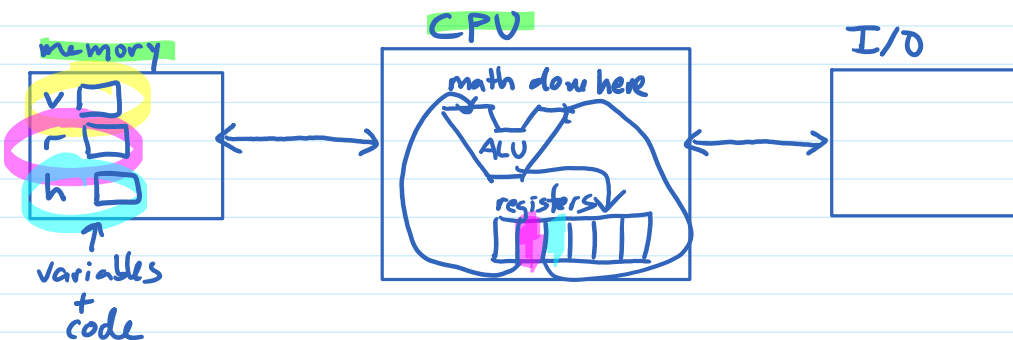
Source Code Translation



CPU: Qualcomm Snapdragon 845

CPU : Intel Core i5 6300U

von Neumann architecture



$$v = \pi \cdot r^2 \cdot h$$

CPU 1

```

load r into register 1 (r1)
multiply r1 by r1, result → r1  r1 has r²
h → r2
r1 * r2 → r2  r2 has h * r²
pi → r3
r2 * r3 → r3  r3 has π * r² * h
r3 → v
    
```

CPU2

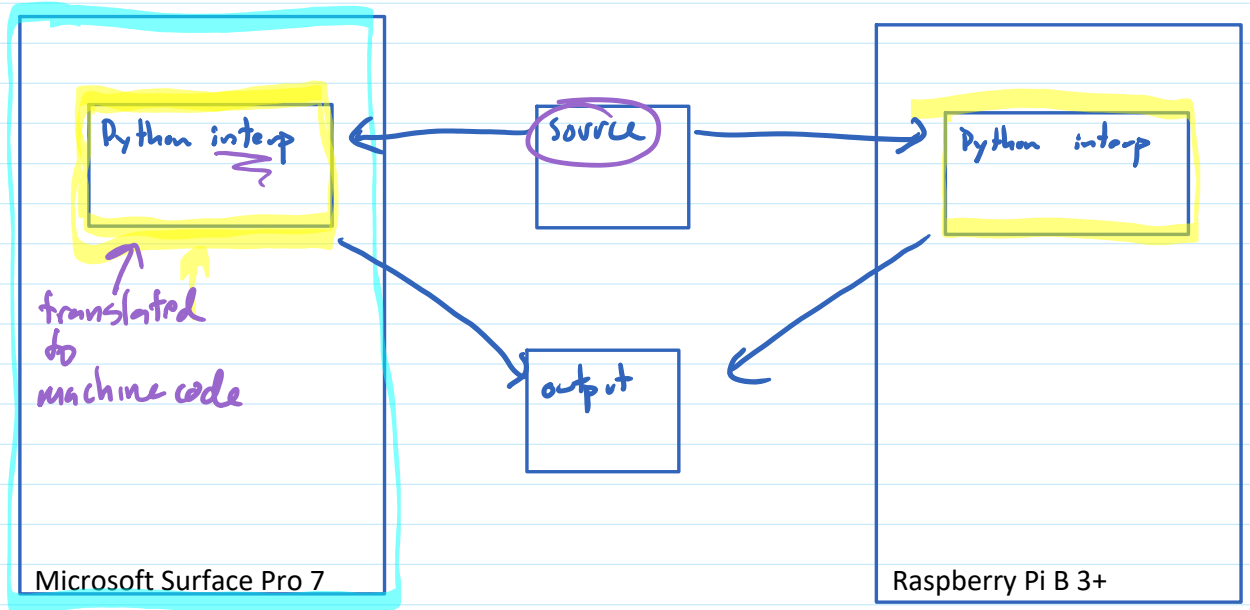
```

load r into r1
square r1
load h into r2
multiply r1 * r2 (result in r2)
mult-by-pi r2
store r2 into v
    
```

Interpreters vs Compilers

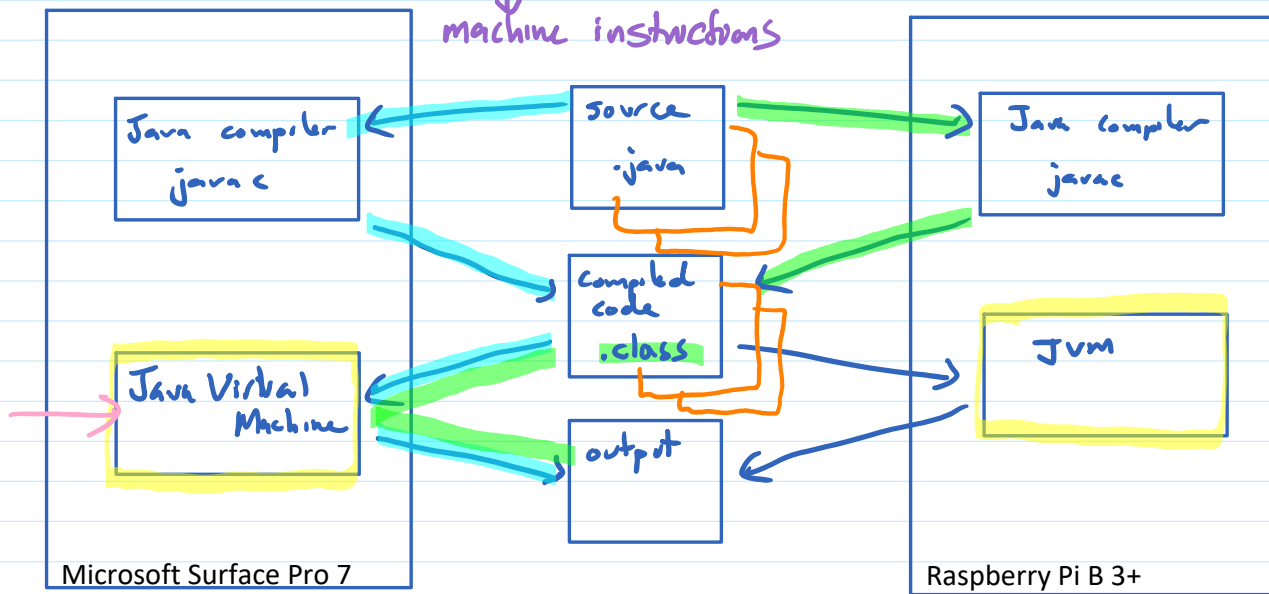
Interpreter

Python
Racket



translates high level source
↓
machine instructions

Java
C#



C

