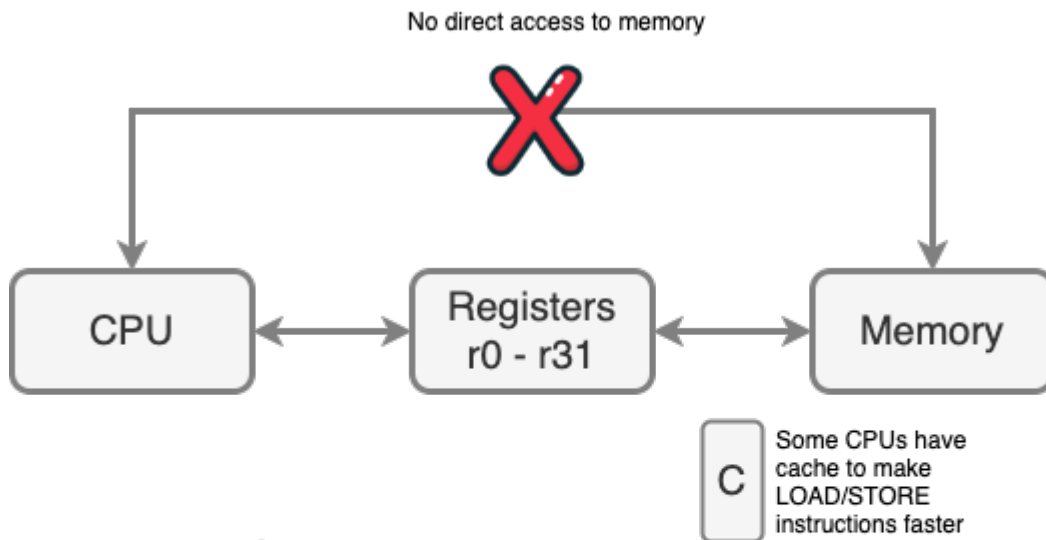


# Volatile Variable



## Math Operation

```
int x = 0;  LOAD R0, &x (memory address)
            INCR R0
++x;       STORE R0, &x
```

```
// volatile
int flag; // global memory is part of "BSS" section, guaranteed to be zero (unless a bug in startup code)
void flag_setter_task(void *p) {
    while (1) {
        ++flag;
        vTaskDelay(1000);
    }
}
```

```
void flag_checker_task(void *p) {
    puts("Task entry");
    while (1) {
        flag = 0;
        while (0 == flag) {
            ;
        }
        puts("flag has incremented away from value of 0");
        vTaskDelay(1000);
    }
}
```

## Interview Questions

- What is a `volatile` keyword?
- Given a code snippet, why you cannot set a breakpoint?
- Is `const` opposite of volatile?
- What is the point of "`const volatile *variable`" ?
  - You as a programmer, cannot write a line of code to modify, but maybe DMA or a peripheral behind you can modify it

---

Revision #3

Created 5 years ago by [Preet Kang](#)

Updated 2 years ago by [Preet Kang](#)