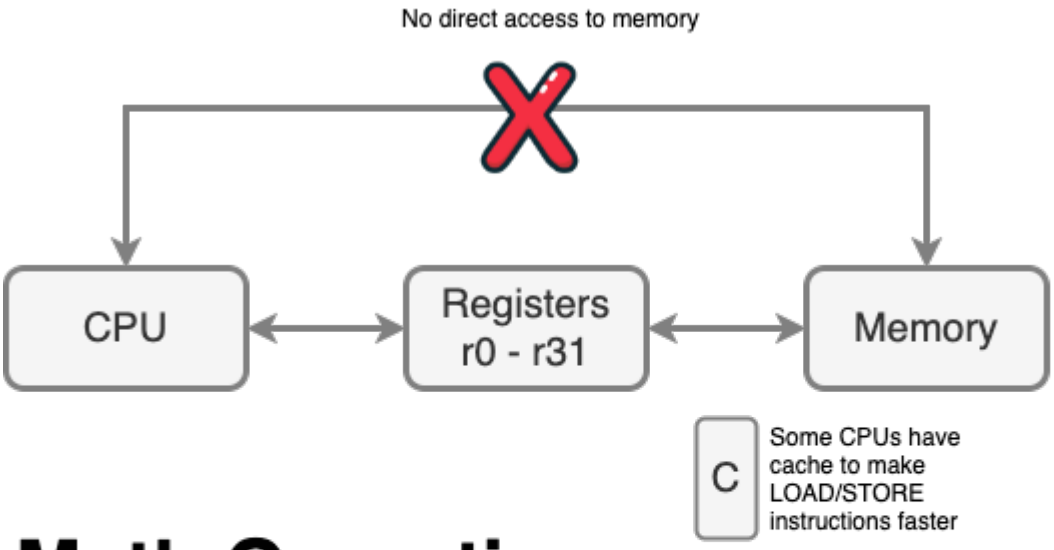
Volatile Variable



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 co
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

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