

Convolution

```
for co in range(CO):
    for ci in range(CI):
        for oh in range(OH):
            for ow in range(OW):
                for kh in range(KH):
                    for kw in range(KW):
                        O[co][oh][ow] +=
                            I[ci][oh+kh][ow+kw] *
                            W[co][ci][kh][kw]
```

Group convolution

```
for g in range(G):
    for co in range(CO//G*g, CO//G*(g+1)):
        for ci in range(CI//G*g, CI//G*(g+1)):
            for oh in range(OH):
                for ow in range(OW):
                    for kh in range(KH):
                        for kw in range(KW):
                            O[co][oh][ow] +=
                                I[ci][oh+kh][ow+kw] *
                                W[co][ci][kh][kw]
```