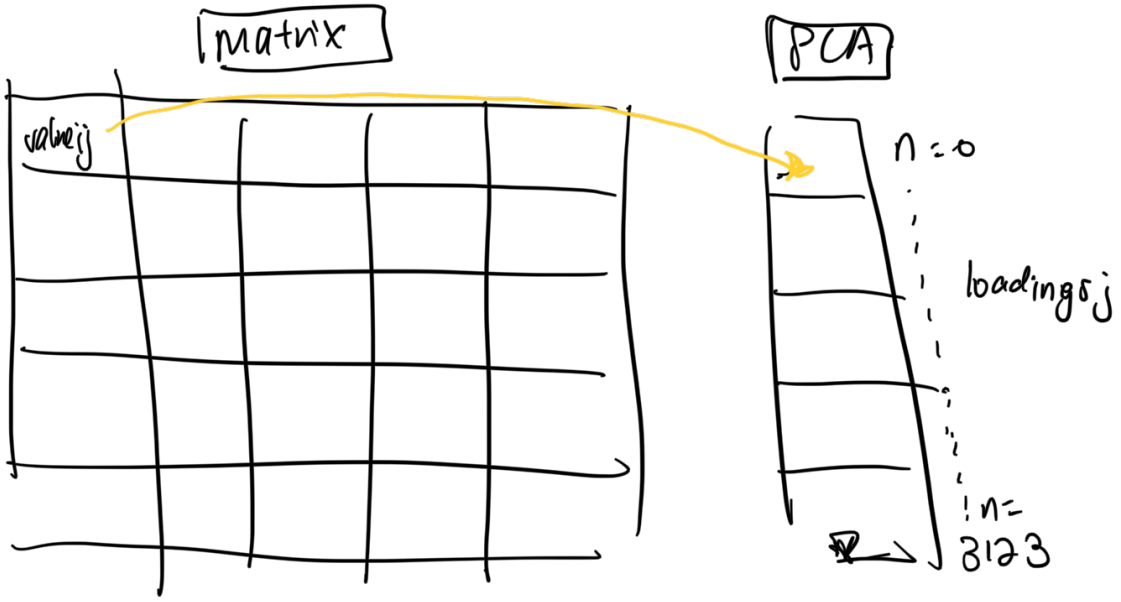
```
def calcpc(variables, loadings):
    numsamples, numvariables = variables.shape
    pc = np.zeros(numsamples)
    for i in range(numsamples):
        valuei = 0
        for j in range(numvariables):
            valueij = variables.iloc
            loadingsij = loadings[j]
            valuei = valuei + (valueij * loadings)
    pc[i] = valuei
```

(24, 3123)

[0, 0, 0. . . . . 0] (24)

cell value in the matrix



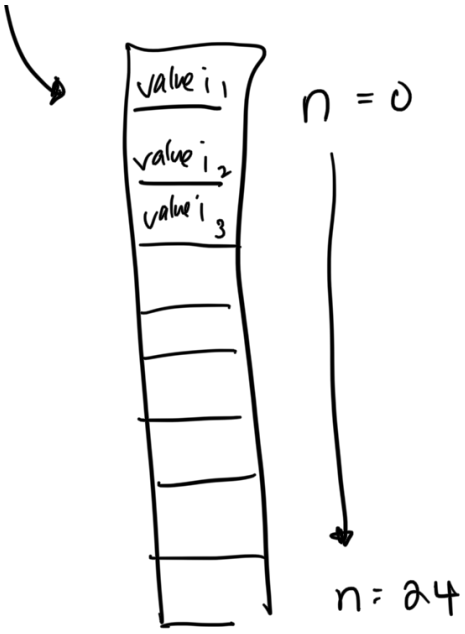
valueij → goes through sample 1

↓

goes through each variable of sample 1

loadingsij → goes through each loading of each variable

pc[i] → reassign back to sample by sample


value i 1
value i 2
value i 3
n = 0
n = 24