

Mapper

```
class MAPPER
```

```
    method MAP(doc d)
```

```
        for all word w in doc d do
```

```
            EMIT(word w, count 1)
```

Reducer

```
class REDUCER
```

```
    method INITIALIZE()
```

```
        DICT <- new DICTIONARY
```

```
        EXTRA_DICT <- new DICTIONARY
```

```
        read the file, that contains results of previous four-year window, line by line
```

```
        for all line in file do
```

```
            get word, avg and std_dev by splitting the tab-separated line
```

```
            EXTRA_DICT[word] <- avg + 2*std_dev
```

```
    method REDUCE(word w, counts [c1, c2, .....])
```

```
        sum <- 0
```

```
        for all count c in counts [c1, c2, .....] do
```

```
            sum <- sum + c
```

```
        DICT[w] <- sum
```

```
    method FIND_FREQ_WORD()
```

```
        for all word w in DICT do
```

```
            if w in EXTRA_DICT and DICT[w] > EXTRA_DICT[w]
```

```
                EMIT(word w, count DICT[w], value EXTRA_DICT[w])
```