IBM-1 Pseudocode

```
initialize P(f|e)   Slide 8
for a number of iterations:
  set tcount(f, e) to 0 for all f, e
  set total(e) to 0 for all e
  for each sentence pair (F, E) in training corpus:      Slide 13
    for each unique word f in F:
      denom_c = 0
      for each unique word e in E:
        denom_c += P(f|e) * F.count(f)
      for each unique word e in E:
        tcount(f, e) += P(f|e) * F.count(f) * E.count(e) / denom_c
        total(e) += P(f|e) * F.count(f) * E.count(e) / denom_c
  for each e in domain(total(:)):
    for each f in domain(tcount(:,e)):      Slide 12
      P(f|e) = tcount(f, e) / total(e)
```