Statistical MT

Given a source (foreign) language sentence $f_1^J = f_1 \ldots f_j \ldots f_J$,
Produce a target language (English) sentence $e_1^I = e_1 \ldots e_j \ldots e_I$.
Among all possible target language sentences, choose the sentence with the highest probability:

$$\hat{e}_1^{\hat{I}} = \underset{I, e_1^I}{\operatorname{argmax}}\, p(e_1^I | f_1^J) \tag{1}$$

We stick to the e_1^I, f_1^J notation despite translating from English to Czech.