## Boris Iomdin. Solution to the Walrus problem

The letter $\beta$ (pronounced es-tsett) exists only in German language. It is written to render the voiceless sound [s], as well as the letter combination ss. Before the reform, the rules for using either variant were rather complex and inconsistent. The reform offers a simpler rule: after a long vowel or diphthong, one writes $\beta$, as long as no other consonant follows in the word stem (the latter part is not reflected in the problem).

The problem can be solved without using any knowledge of German, if one compares the German words to their English cognates. We can see that in each syllable which contains the $\beta$, English has two vowel letters: barfu $\beta$ - barefoot, gro $\beta$ - great, So $\beta e$ sauce, Straße - street, süß - sweet. This may be an indication of the fact that the joint ancestor of German and English had a long vowel in this position. The traditional German orthography does not show the length of the vowel in any way, but we may suppose that the long/short distinction still exists in the language. Then it would be reasonable to assume that according to the new orthography, the length of the vowel in the syllable ending by the [ s$]$ sound is reflected by the use of $\beta$ or $s s$.

## Assignment 1.

| Baß | Bass | bass |
| :--- | :--- | :--- |
| Biß | Biss | bit |
| Floß | Floß | float |
| Fußball | Fußball | football |
| Geißhirt | Geißhirt | goatherd |
| grüß | grüß | greet |
| schieß | schieß | shoot |
| Schuß | Schuss | shot |
| Schweiß | Schweiß | sweat |

Assignment 2. The new orthography apparently makes it easier to read some German words for foreigners who otherwise would not know whether to pronounce the vowel in a given word short or long.

