Abstract: We study the Sobolev embeddings theorem and formulate modified theorems on domains with nonlipschitz boundary. The Sobolev embeddings theorem on a domain with Lipschitz boundary claims

\[ f \in W^{1,p} \Rightarrow f \in L^{p^*(p)}, \text{ kde } p^*(p) = \frac{np}{n - p}. \]

The function \( p^*(p) \) is continuous and even smooth. We construct a domain with nonlipschitz boundary and function of the optimal embedding i.e. analogy of \( p^*(p) \) is not continous. In the first part, according to [1], we construct the domain with the point of discontinuity for \( p = n = 2 \). Though we used known construction of domain, we prove this by using more simple and elegant methods. In the second part of thesis we suggest the way how to generalize this model domain and shift the point of discontinuity to other point than \( p = n = 2 \).