In this talk, an introduction to the theory of competitive online algorithms is given which is one way to model external dynamics from the perspective of subproject A1. In contrast to offline algorithms that know the whole input in advance, an online algorithm is presented a sequence of requests which it has to serve online, i.e. it has to serve each request one by one without knowing about the next request and without knowing the length of the sequence. This talk introduces the basic model and different adversary models as well as some applications.