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# ON FIRST RETURN CHARACTERIZATIONS OF BAIRE CLASSES $\alpha \geq 1$

Consider the following characterization of Baire 1 functions given in [1].

**Theorem 1** *Suppose $X$ is a compact metric space and $Y$ is a separable metric space. A function $f : X \to Y$ is first return recoverable iff $f$ is of Baire class 1. (Refer to [1] for the relevant definitions.)*

We raise the following questions concerning the above theorem.

**Problem 1** *Can the hypothesis of $X$ being a compact space be weakened to $X$ being a complete metric space?*

**Problem 2** *Are there first return type characterizations of functions of Baire class $\alpha$ for $\alpha > 1$?*

## References

[1] U. B. Darji and M. J. Evans, *Recovering Baire 1 functions*, Mathematika (to appear.)