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Corrigendum

Corrigendum to "$\beta-$Menger and $\beta-$Hurewicz spaces"

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Abstract

This corrigendum provides a correction to the paper entitled "*$\beta-$Menger and $\beta-$Hurewicz spaces*".

1. Example of $\beta-$Menger space in [1]

Investigating the validity of results in [1], I realized that Example 4.2 on page 4 is incorrect. The explanation is as follows.

Take $X = \mathbb{R}$ and $p = \sqrt{2}$. Let τ be the topology on X as in Example 4.2 in [1]. Let $x \neq p$ be an irrational number. Consider the set $U_x = \{x\} \cup \mathbb{Q}$, where $\mathbb{Q}$ denotes the set of rational numbers. Then $U_x \in \tau$.

Claim: $A = \{\sqrt{2}\} \cup \mathbb{Q}$ is $\beta-$open subset of $\mathbb{R}$.

Since $A \subseteq Cl(A)$, we have

$$\begin{aligned} & Int(A) \subseteq Int(Cl(A)), \\ \Rightarrow\ & \mathbb{Q} \subseteq Int(Cl(A)), \\ \Rightarrow\ & Cl(\mathbb{Q}) \subseteq Cl(Int(Cl(A))). \end{aligned}$$

Since $A \subseteq Cl(\mathbb{Q})$, $A \subseteq Cl(Int(Cl(A)))$. It completes the claim.

Consider the $\beta-$open cover $\mathcal{U} = \{U_x : x \in \mathbb{R}\backslash\mathbb{Q}\}$ of X. The cover $\mathcal{U}$ has no countable subcover, so X is not $\beta-$Menger.

References

[1] M. Kule, *$\beta-$Menger and $\beta-$Hurewicz spaces*, Hacet. J. Math. Stat. **51**(1), 1-7, 2022.

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