1166-20-153 **Asiyeh Rafieipour*** (ar444818@ohio.edu), **S.R. Lopez-Permouth** (lopez@ohio.edu) and **Isaac Owusu Mensa**. *A monoid structure on the set of all binary operations over a fixed set.*

Given a set S, we consider an operation $\triangleleft$ on the set $\mathcal{M}(S)$ where

$$\mathcal{M}(S) = \{*| * \text{ is a binary operation on } S\}$$

such that $(\mathcal{M}(S), \triangleleft)$ is a monoid. We consider several properties of this monoid including the fact that it has all subsets of the form

$$out(*) = \{\circ \in \mathcal{M}(S)| * \text{ distributes over } \circ\}$$

as submonoids. We introduce for the case when $|S| < \infty$, a user-friendly representation of the elements of $\mathcal{M}(S)$.

This talk reports some results from a paper with S.R. López-Permouth and Isaac Owusu Mensah that is currentely under consideration for publication. (Received February 16, 2021)