1163-11-1459 **Sandie Han**, **Ariane M. Masuda**, **Satyanand Singh** and **Johann Thiel*** (jthiel@citytech.cuny.edu), 300 Jay St., Brooklyn, NY 11201. *Subgroups of $SL_2(\mathbb{Z})$ characterized by certain continued fraction representations.*

For positive integers u and v, let $L_u = \begin{bmatrix} 1 & 0 \\ u & 1 \end{bmatrix}$ and $R_v = \begin{bmatrix} 1 & v \\ 0 & 1 \end{bmatrix}$. Let $S_{u,v}$ be the monoid generated by L_u and R_v, and $G_{u,v}$ be the group generated by L_u and R_v. In this talk we will show an extension of a characterization of matrices $M = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ in $S_{k,k}$ and $G_{k,k}$ when $k \geq 2$ given by Esbelin and Gutan to $S_{u,v}$ when $u, v \geq 2$ and $G_{u,v}$ when $u, v \geq 3$. We will present a simple algorithmic way of determining if M is in $G_{u,v}$ using a recursive function and the short continued fraction representation of b/d. (Received September 15, 2020)