generalized the concept of graceful graphs to $k$-graceful graphs. For a fixed integer $k \geq 1$, a graph $G$ is said to be $k$-graceful if there exists a vertex labeling $f : V(G) \rightarrow \{0,1,\ldots,k+|E|-1\}$ which is one-to-one and the induced edge labeling $f^*((a,b)) = |f(a) - f(b)|$ for $(a,b) \in E$ is a bijection from $E(G)$ onto $(k,\ldots,k+|E|-1)$. Acharya [1] showed that some 2-dimensional polyomino graphs are $k$-graceful. $K$-graceful graphs also have been studied by Lee, Liu, Ng and Wang [12,13,14].

Gangopadhyay and Hebbare called the bipartite graceful graph bigraceful [7]. It was conjectured by Kotzig and Ringel that every tree is graceful. However, a general graceful algorithm that works for all trees is not yet found. Some special types of trees had been proved to be bigraceful [2,18,21]. Golomb [8] and Rosa [18] showed that complete bipartite graphs are graceful. Bodendiek, Schumacker and Wagner [3], Rao Hebbare [7] and Rosa [18] have proved that $C_n$ is graceful for $n \equiv 0 \pmod{4}$.

Bodendiek et al [3] showed that every prism $C_n \times P_2$ with $n \equiv 0 \pmod{4}$ is graceful and Frucht and Gallian [6] showed that every prism admits an $\alpha$-valuation if $n$ is even. Maheo [15,16] and Delorme [4] proved certain bipartite graphs are graceful. In [11], Lee and Liu used the mirror sum construction on complete bipartite graphs to construct infinite families of bigraceful graphs which are $k$-graceful for all $k \geq 1$.

The purpose of this paper is to introduce another construction of bipartite graphs which will produce new families of $k$-graceful graphs. In fact, we show that for any sequence of null graphs, its sequential join is $k$-graceful for any $k \geq 1$.

2. The sequential join of graphs.