

$$\begin{array}{ccccc} \partial\Delta^1 \times \Lambda_k^n & \longrightarrow & \Delta^1 \times \Lambda_k^n & & \\ \downarrow & & \downarrow & \nearrow \pi_0 & \\ \partial\Delta^1 \times \Delta^n & \xrightarrow{\text{PO}} & \square & & \Lambda_k^n \\ \nearrow & \searrow & \downarrow & & \downarrow \\ \Lambda_k^n & & \Delta^1 \times \Delta^n & \xrightarrow{p} & \Delta^n \\ \downarrow & \xrightarrow{\iota_1} & & & \\ \Delta^n & & & & \end{array}$$

The diagram illustrates the following components and maps:

- Top Row:** $\partial\Delta^1 \times \Lambda_k^n \longrightarrow \Delta^1 \times \Lambda_k^n$
- Second Row:**
 - Left: $\partial\Delta^1 \times \Delta^n$
 - Middle: \square (a square symbol)
 - Right: Λ_k^n
- Bottom Row:**
 - Left: Λ_k^n
 - Middle: $\Delta^1 \times \Delta^n$
 - Right: Δ^n
- Maps:**
 - $\partial\Delta^1 \times \Lambda_k^n \rightarrow \Delta^1 \times \Lambda_k^n$ (horizontal arrow)
 - $\partial\Delta^1 \times \Lambda_k^n \rightarrow \partial\Delta^1 \times \Delta^n$ (vertical arrow)
 - $\partial\Delta^1 \times \Delta^n \rightarrow \square$ (horizontal arrow, labeled **PO**)
 - $\Delta^1 \times \Lambda_k^n \rightarrow \square$ (vertical arrow)
 - $\square \rightarrow \Delta^1 \times \Delta^n$ (vertical arrow)
 - $\Delta^1 \times \Lambda_k^n \rightarrow \Lambda_k^n$ (diagonal arrow, labeled π_0)
 - $\Lambda_k^n \rightarrow \Delta^n$ (vertical arrow)
 - $\Lambda_k^n \rightarrow \partial\Delta^1 \times \Delta^n$ (diagonal arrow)
 - $\Delta^n \rightarrow \Delta^1 \times \Delta^n$ (horizontal arrow, labeled ι_1)
 - $\Delta^1 \times \Delta^n \rightarrow \Delta^n$ (horizontal arrow, labeled p)