**2. Showing Functions are Convex**

2.0 f(w) = 1xd \* dx1 use zero-order definition

∇f(w) = dx1

∇2f(w) = dx1 \* 1xd

2.1a f(ui, vj) = 1xd \* dx1

2.1b f(ui, vj) = 1xd \* dx1