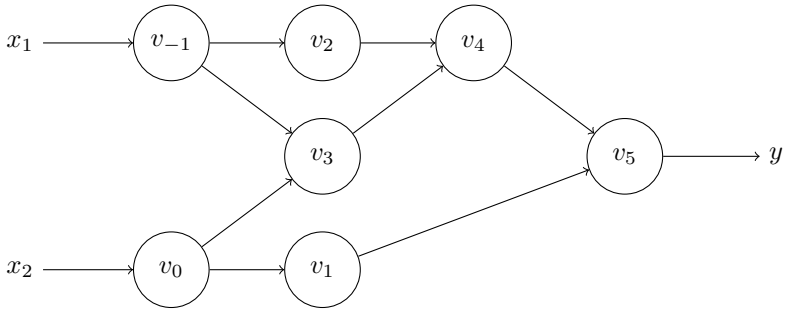
$$f(x_1, x_2) = e^{x_2}(x_1^2 - x_1/x_2)$$

For function f - Draw the computation graph, Fill in the blanks for the forward pass AD and reverse pass AD tables at $(x_1, x_2) = (1, 2)$

Part 1 - Computation Graph



Forward Primal Trace

v_{-1}	$= x_1$	$= 1$
v_0	$= x_2$	$= 2$
v_1	$= e^{v_0}$	$= 7.389$
v_2	$= v_{-1}^2$	$= 1$
v_3	$= \frac{v_{-1}}{v_0}$	$= 0.5$
v_4	$= v_2 - v_3$	$= 0.5$
v_5	$= v_4 v_1$	$= 3.694$
y	$= v_5$	$= 3.694$

Part 2 - Forward Tangent Trace (Find $\frac{\partial f}{\partial x_1}$)

$\dot{v_{-1}}$	$=$	$= 1$
$\dot{v_0}$	$=$	$= 0$
$\dot{v_1}$	$= e^{v_0}\dot{v}_0 = e^2 \cdot 0$	$= 0$
$\dot{v_2}$	$= 2v_{-1}\dot{v}_{-1} = 2 \cdot 1 \cdot 1$	$= 2$
$\dot{v_3}$	$= \frac{1}{v_0}\dot{v}_{-1} - \frac{v_{-1}}{v_0^2}\dot{v}_0 = \frac{1}{2} \cdot 1 - \frac{1}{4} \cdot 0$	$= 0.5$
$\dot{v_4}$	$= \dot{v}_2 - \dot{v}_3 = 2 - 0.5$	$= 1.5$
$\dot{v_5}$	$= v_4\dot{v}_1 + \dot{v}_4 v_1 = 0.5 \cdot 0 + 1.5 \cdot e^2$	$= 11.08$
$\dot{y}$		$= 11.08$

Part 3 - Reverse Adjoint Trace

$\bar{v_{-1}}$	$= 2v_{-1}^2\bar{v}_2 + \frac{1}{v_0}\bar{v}_3 = 2 \cdot 1 \cdot 7.389 + \frac{1}{2}(7.389) = \frac{3}{2} \cdot 7.389$	$= 11.08$
$\bar{v_0}$	$= e^{v_0}\bar{v}_1 - \frac{v_{-1}}{v_0^2}\bar{v}_3 = e^2 \cdot 0.5 - \frac{1}{4} \cdot (-7.389)$	$= 5.54$
$\bar{v_1}$	$= v_4\bar{v}_5 = 0.5 \cdot 1$	$= 0.5$
$\bar{v_2}$	$= \bar{v}_4$	$= 7.389$
$\bar{v_3}$	$= -\bar{v}_4$	$= -7.389$
$\bar{v_4}$	$= v_1\bar{v}_5 = e^2 \cdot 1$	$= 7.389$
$\bar{v_5}$	$=$	$= 1$