1.) Find the directional derivative of \( f(x, y, z) = x^2 y + x\sqrt{1+z} \) at the point (1, 2, 3) and in the direction of \( \mathbf{v} = 2\mathbf{i} + \mathbf{j} - 2\mathbf{k} \). (4 points)
2.) Find the local maximum and minimum value(s) and saddle point(s) of the function
\[ f(x, y) = xy(1 - x - y) . \] (6 points)