Problem 1
Solve the PDE for \( f(x,t) \) given the initial conditions \( f(x,0) = s(x) \)
\[
\frac{\partial f}{\partial t}(x,t) + \frac{x}{t+1} \frac{\partial f}{\partial x}(x,t) = f(x,t) + t + x
\]

Problem 2
Solve the PDE for \( f(x,y,t) \) given the initial conditions \( f(x,y,0) = s(x,y) \)
\[
\frac{\partial f}{\partial t}(x,y,t) + \frac{\partial f}{\partial x}(x,y,t) + \frac{\partial f}{\partial y}(x,y,t) = 1
\]