write the following equation in weak form:

$$u_t + \exp(u)u_x = 0 \quad u(x,0) = f(x)$$
$$u_t + u^2 u_x = 0 \quad u(x,0) = f(x)$$
$$u_t + u^3 u_x = 0 \quad u(x,0) = f(x)$$
$$u_t + sin(u)u_x = 0 \quad u(x,0) = f(x)$$
$$u_t + cos(u)u_x = 0 \quad u(x,0) = f(x)$$

Write the following equation in weak form:

$$u_{xx} - u_{tt} = 0$$
$$u_{xx} - 3u_{tt} = 0$$
$$2u_{xx} - u_{tt} = 0$$
$$2u_{xx} + u_{yy} = 0$$
$$2u_{xx} + 3u_{yy} = 0$$
$$2u_{xx} + 2u_{yy} = 0$$