Section B. Electricity and Magnetism

1. A device consists of two large (say, infinite) parallel planes. The bottom plane, at $z = 0$, is at voltage $V = 0$. The top plane, at $z = a$, is made of strips parallel to the x-axis of width $b/2$. They alternate in voltage between $+V_0$ and $-V_0$ as shown in the picture. (Ignore the gaps between the strips.)

   Find the electrostatic potential $V(x, y, z)$ everywhere between the planes.