**Solve the following string equation problem**

**utt = 1/4\* uxx, 0<x<1,t>0,**

**u(0, t) = 0, u(1,t)=0, t>0**

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**u(x,0) =**

**1−x, 1/2<x<1.**

**ut (x,0) = 0**

**  **

**Solve using separation of variables and D’Alembert. Show solutions in detail.**

**Graph both solution u(x, t) for t = 0, 1, 2, 4.**