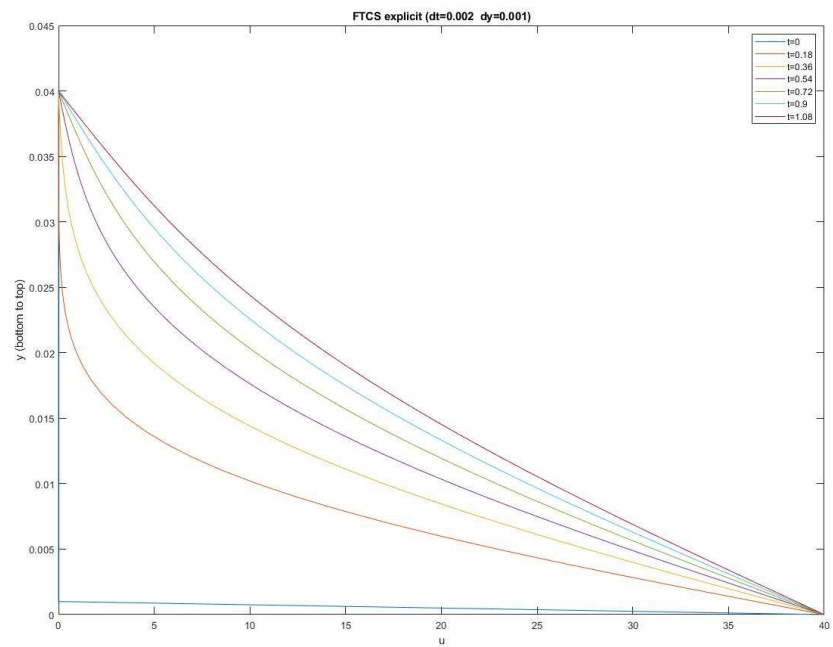
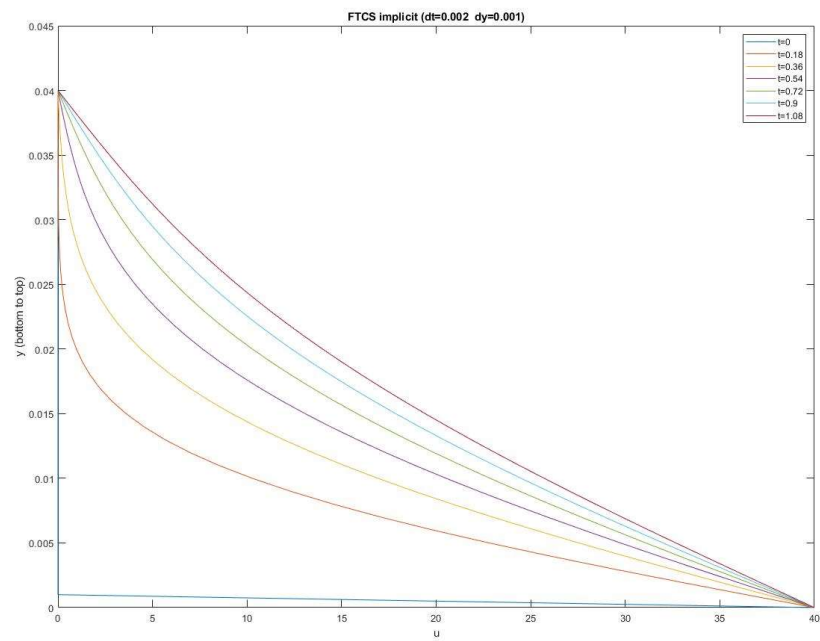


Q5)

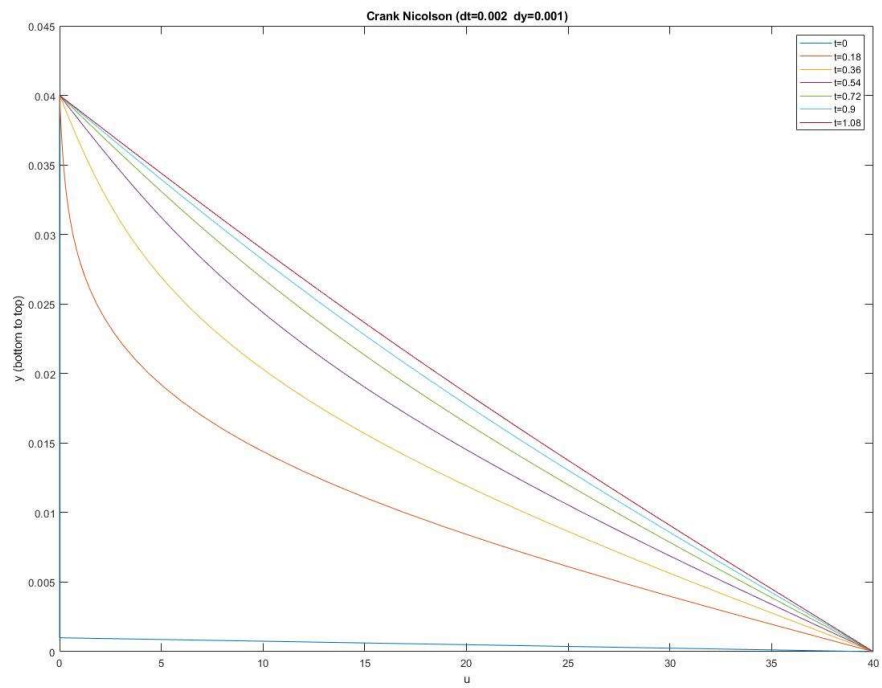
FTCS Explicit:



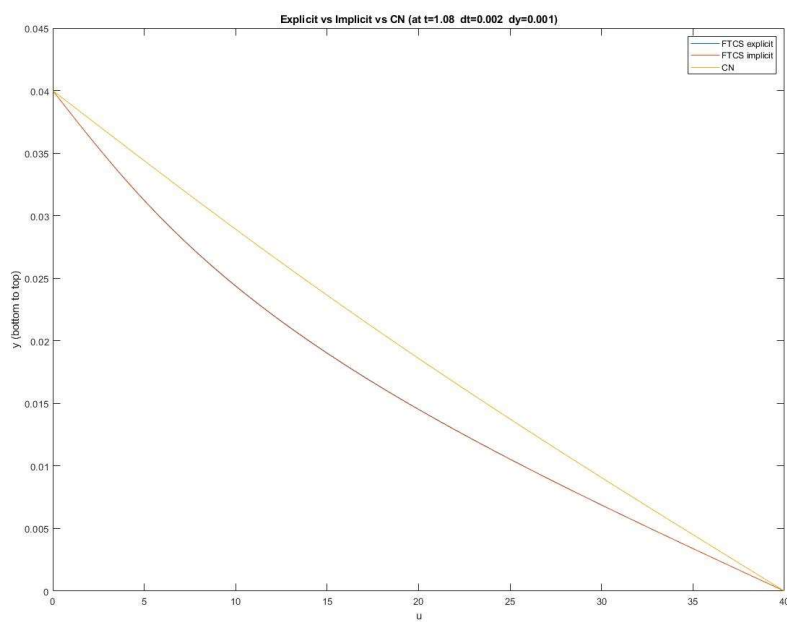
FTCS Implicit:



Crank Nicolson:



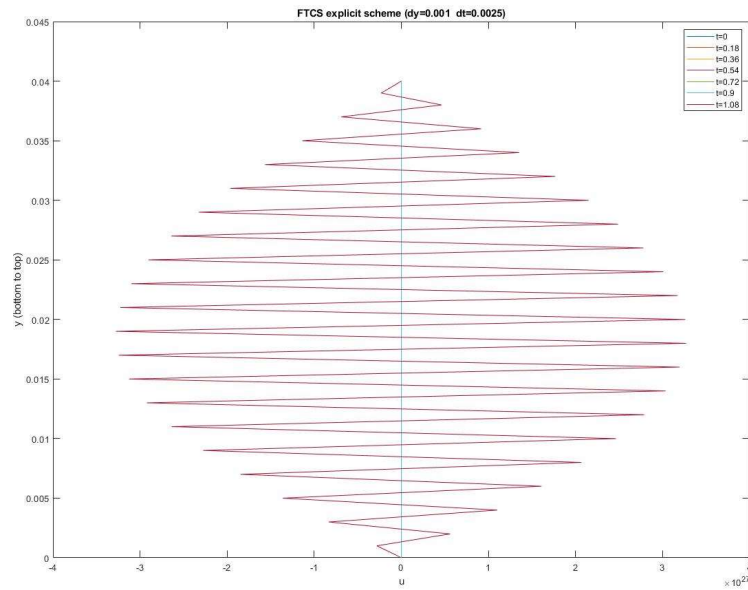
Q6) Explicit vs Implicit vs CN:



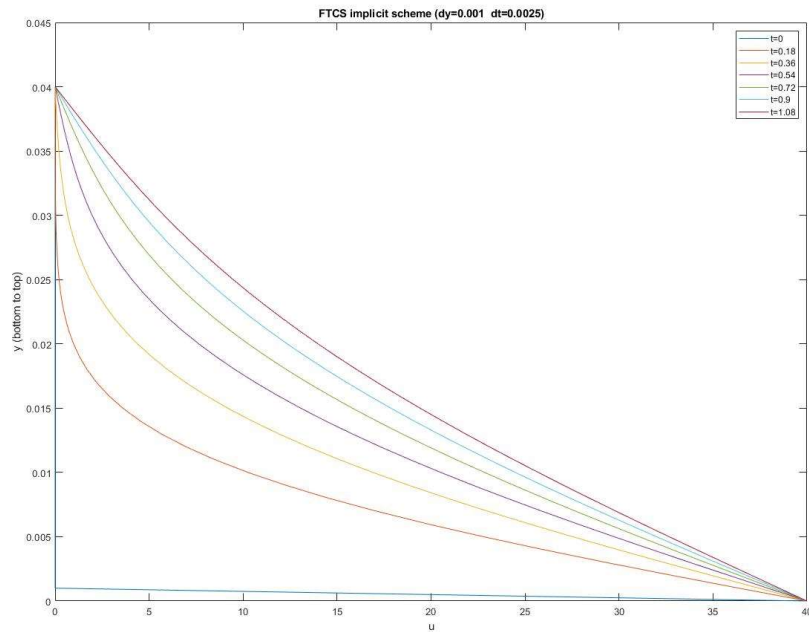
Q7)

FTCS Explicit:

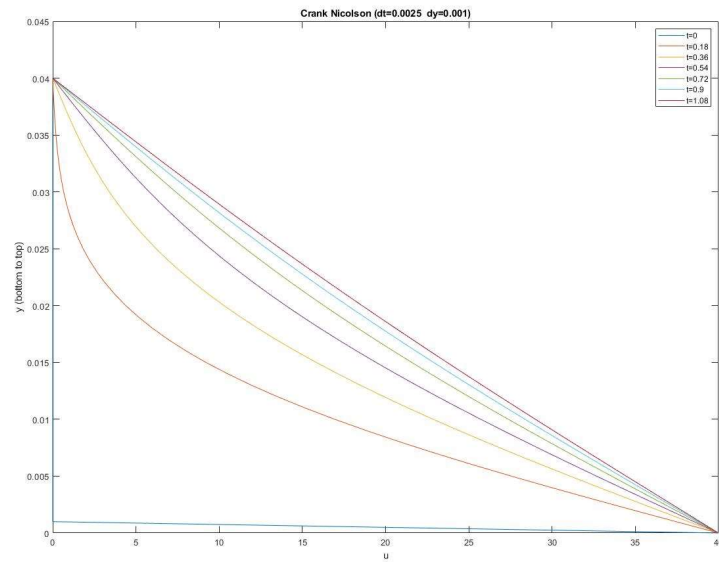
As Δt goes beyond maximum allowable time step (i.e $\Delta t=0.0023$), the scheme becomes invalid. Even boundary conditions are not satisfied.



FTCS Implicit:

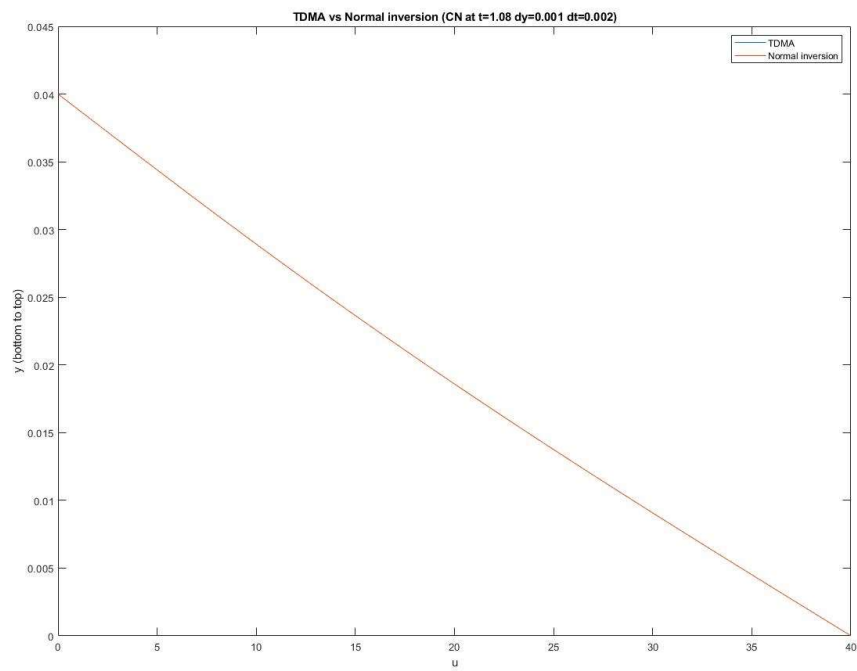


Crank Nicolson:



Q8)

TDMA vs Normal inversion in CN ($t=1.08$, $dt=0.002$, $dy=0.001$):



Q9)

