

## Numerical Methods for PDE

### Assignment -5

#### Solution

i have created a c source code file named Assignement5.c.

The code contains numerical solution for both continuous and discontinuous initial condition.

when the user runs the code,

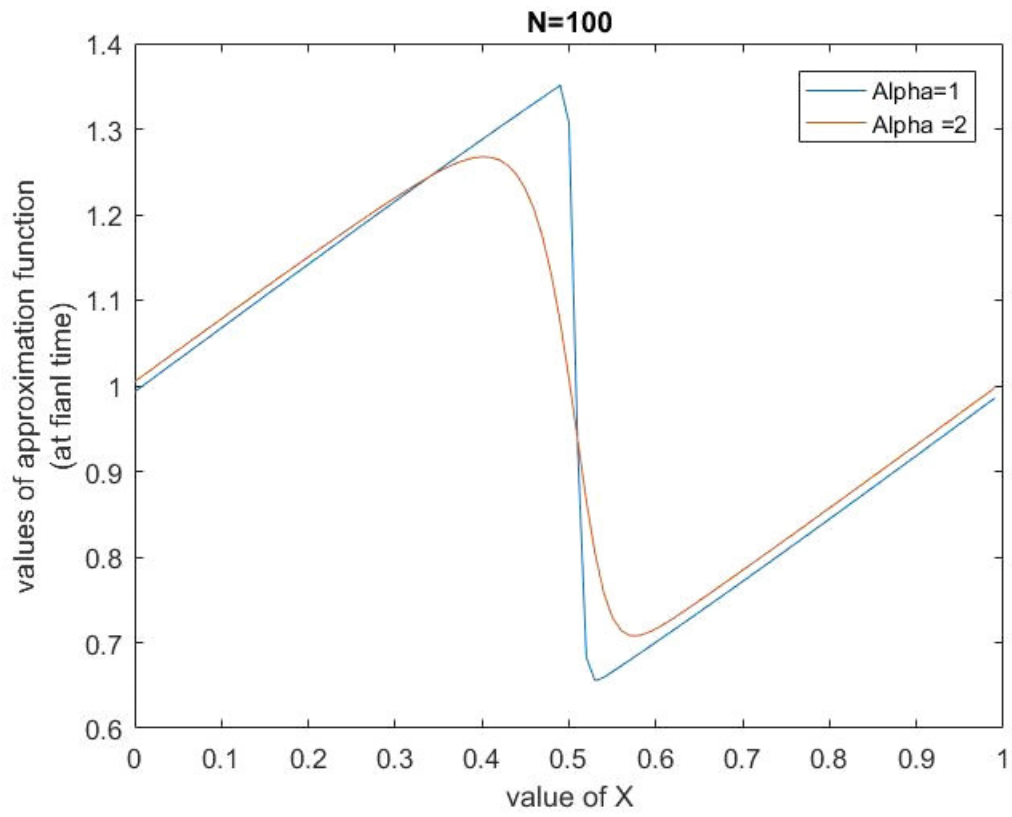
it asks the user to specify number of grid space(Value of X) and followed by asks user to select the type of initial conditon (Continuous=1, discontinuous=2) and also it asks to select the alpha value (Apha=1or Alpha=2)

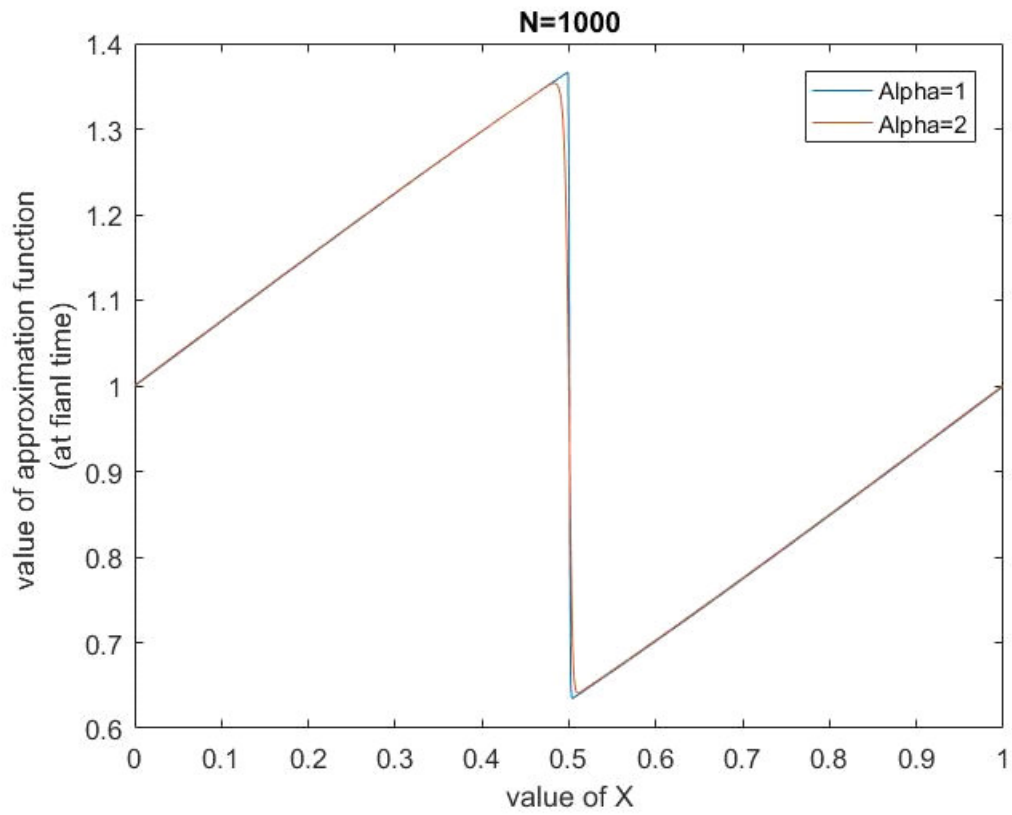
After entering these values it will print the Numerical solution at final time for the entered grid space and alpha value and type of solution. After excution of each time it will create a Edil.csv file, which contains the values of numerical solution at final time and respective X values, with which i imported in matlab and plotted the follwing graphs.

(Note: The Edil.csv file will be created , where the source code is.

following the above procedure , i obtained the following graphs.

#### **Problem 1(Continuous initial condition )**





## Problem 2(Discontinuous Initial condition)

