```
% Roll No: 207
% Batch: C3
% Date: 04-05-2023
% Name: Mohanish Khambadkar
% Assignment 9

% Runge-Kutta Method

y0=1;
x0=0;
h=0.1;
%(dy/dx)+y=0;

%for y(0)
%2nd Order
k12=secondOrder(x0,y0,h)
y12=y0+k12

%3rd Order
k13=thirdOrder(x0,y0,h)
y13=y0+k13

%4th Order
k14=fourthOrder(x0,y0,h)
y14=y0+k14

%for y1(0.1)
y1=0.1;

%2nd Order
k22=secondOrder(x0,y12,h)
y22=y12+k22

%3rd Order
k23=thirdOrder(x0,y13,h)
y23=y13+k23

%4th Order
k24=fourthOrder(x0,y14,h)
y24=y14+k24
```

```
k12 =

   -0.0950


y12 =

    0.9050
```

```
k13 =

   -0.0952

y13 =

    0.9048

k14 =

   -0.0952

y14 =

    0.9048

k22 =

   -0.0860

y22 =

    0.8190

k23 =

   -0.0861

y23 =

    0.8187

k24 =

   -0.0861

y24 =

    0.8187
```

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