**u'' = 400u - 401sinx**

**u(0) = 0, u(1) = sin 1**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

h = 0.25

n = 3

D = 0.229630; Y = 0.247340

D = 0.454035; Y = 0.478181

D = 0.651044; Y = 0.651044

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

h = 0.125

n = 8

D = 0.094697; Y = 0.124684

D = 0.202330; Y = 0.247390

D = 0.307327; Y = 0.366284

D = 0.407342; Y = 0.479140

D = 0.501168; Y = 0.583497

D = 0.587118; Y = 0.669085

D = 0.666139; Y = 0.666139

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

h = 0.0625

n = 16

D = 0.027412; Y = 0.062400

D = 0.067867; Y = 0.124645

D = 0.110401; Y = 0.186336

D = 0.152939; Y = 0.247381

D = 0.194936; Y = 0.307459

D = 0.236157; Y = 0.366301

D = 0.276419; Y = 0.423660

D = 0.315546; Y = 0.479317

D = 0.353605; Y = 0.533124

D = 0.390135; Y = 0.584390

D = 0.425236; Y = 0.632360

D = 0.458578; Y = 0.674253

D = 0.490180; Y = 0.702087

D = 0.519927; Y = 0.689823

D = 0.553064; Y = 0.553064

**y'' = x + y**

**y(0) = y(1) = 0**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

h = 0.25

n = 4

D = -0.007576; Y = -0.034885

D = -0.024610; Y = -0.056326

D = -0.050037; Y = -0.050037

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

h = 0.125

n = 8

D = -0.000969; Y = -0.018337

D = -0.003208; Y = -0.035007

D = -0.006680; Y = -0.048318

D = -0.011331; Y = -0.056524

D = -0.017100; Y = -0.057801

D = -0.023914; Y = -0.050216

D = -0.031696; Y = -0.031696

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

h = 0.0625

n = 16

D = -0.000122; Y = -0.009280

D = -0.000405; Y = -0.018353

D = -0.000850; Y = -0.027008

D = -0.001452; Y = -0.035037

D = -0.002212; Y = -0.042227

D = -0.003125; Y = -0.048360

D = -0.004189; Y = -0.053217

D = -0.005401; Y = -0.056574

D = -0.006756; Y = -0.058198

D = -0.008251; Y = -0.057852

D = -0.009881; Y = -0.055291

D = -0.011642; Y = -0.050261

D = -0.013528; Y = -0.042497

D = -0.015536; Y = -0.031725

D = -0.017659; Y = -0.017659

**y'' = y**

**y(0) = 0, y(1) = -1**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

h=0.25

n=3

D = -0.000000; Y = -0.215115

D = -0.000000; Y = -0.443674

D = -0.699963; Y = -0.699963

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

h=0.125

n=8

D = -0.000000; Y = -0.106663

D = -0.000000; Y = -0.214993

D = -0.000000; Y = -0.326682

D = -0.000000; Y = -0.443476

D = -0.000000; Y = -0.567199

D = -0.000000; Y = -0.699784

D = -0.843304; Y = -0.843304

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

h=0.0625

n=16

D = -0.000000; Y = -0.053220

D = -0.000000; Y = -0.106647

D = -0.000000; Y = -0.160491

D = -0.000000; Y = -0.214963

D = -0.000000; Y = -0.270273

D = -0.000000; Y = -0.326640

D = -0.000000; Y = -0.384282

D = -0.000000; Y = -0.443426

D = -0.000000; Y = -0.504302

D = -0.000000; Y = -0.567147

D = -0.000000; Y = -0.632209

D = -0.000000; Y = -0.699739

D = -0.000000; Y = -0.770003

D = -0.000000; Y = -0.843275

D = -0.919841; Y = -0.919841