Syeda Reeha Quasar

14114802719

4C7

Aim

To solve ordinary differential equations using Runge- Kutta Method.

Experiment - 6

APPLIED MATHEMATICS LAB

# **EXPERIMENT – 6**

## **Aim:**

To solve ordinary differential equations using Runge- Kutta Method.

**Source Code:**

clc; clear; close;

printf('\n\n Name - Syeda Reeha Quasar \n Enrolment No. - 14114802719 \n Group - C7 \n\n')

deff ('z = f(x,y)', 'z = x\*x - y')

x0 = 0; y0 = 1; xn = 0.2; h=0.1;

x = x0;

y = y0;

while x ~= xn

k1 = h \* f(x,y);

k2 = h \* f(x+h/2, y+k1/2);

k3 = h \* f(x+h/2,y+k2/2);

k4 = h \* f(x+h, y+k3);

k = (k1 + (k2 + k3) \* 2 + k4)/6;

x = x + h;

y = y + k;

printf("\n When x = %g, y = %g\n", x, y)

end

# **Output:**

