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import sympy
from sympy.abc import x, y
def picard_solver(y_0, x_0, rhs_expression, iteration_count:int = 5):

    x, phi = sympy.symbols("x phi")

    phi = x_0

    for i in range(iteration_count):
        phi = y_0 + sympy.integrate( rhs_expression(x,phi), (x, x_0, x) )
    return phi

s = input("Enter right-hand side of the equation dy/dx = f(x,y) ")
count = int(input("Enter number of iterations "))
x_0 = float(input("Enter x0 of initial data (y(x0)=y0) "))
y_0 = float(input("Enter y0 of initial data (y(x0)=y0) "))

y = picard_solver(y_0, x_0, lambda x,y: eval(s, {"x": x, "y": y}), count)
print(y)
s1 = input("Do you want to evaluate solution for some value of x?(Y/N) ")
if s1=="Y":
    num = float(input("Enter the value of x "))
    print(y.evalf(subs={x:num}))

```