**Non-Exact Separable ODE Solver Description**

The **non\_exact\_separable\_ode\_solver.py** program is designed to solve non-exact separable ordinary differential equations (ODEs) in a specific format. Here's how the equation should be structured:

* The equation should be in the form of **(M(x,y)dx + N(x,y)dy=0)**.
* Replace **M(x,y)** and **N(x,y)** with the expressions that define your ODE.
* Optionally, you can specify initial conditions for **x** and **y** . Provide these initial conditions as **x** and **y** variables in the code if needed.

The primary function, **masterSolver(eqn, x='', y='')**, takes the ODE equation and, optionally, initial conditions as input. It attempts to solve the non-exact separable ODE and provides the solution.

Other functions briefly described:

* **Solve(M, N)**: Attempts to solve the ODE by separating variables and performing integration.
* **replaceSubStr(eqn)**: Handles string substitutions for trigonometric functions and formatting.
* **reduceToStandard(eqn)**: Transforms the input equation into a standard form suitable for solving.
* **removeLog(fx, fy)**: Attempts to remove logarithmic terms from **fx** and **fy** for simplification.
* **initial\_condition(sol, x, y)**: Determines the particular solution using initial conditions, if provided.
* **expTo\_e(eqn)**: Converts "exp" to "e^" in the equation for better representation.
* **formateAnswer(solution)**: Formats the solution string for consistency.

The program processes the equation and displays the solution in the console.

Please make sure to structure your non-exact separable ODE according to the provided format for successful usage.