Jonas 1 2 3 4 16,5/50 Aufgabe 9 David 6005 X = - cos 4  $\frac{\alpha}{7} = \begin{pmatrix} x \\ y \\ z \end{pmatrix} =$ rcesul rsince rcold 10/50 y = r sing z = r cofd ( nur da ist Znany bed you V= mg rcofd - 1 = ( i cost - riesind )

- i sind + rie cost

- i cot de => 2 = +2 cos q - 2 + rel cos q sind + +2 & sin & + it sin'd + 2 is cose sing + i'd cose + i cot cl 2 = (1+ cof d/7 + 12 g/2) = L= = m [CHcola); 2+2 g27 - mgr cola 1.  $DGL: \frac{\partial}{\partial E} \frac{\partial C}{\partial \dot{q}} - \frac{\partial C}{\partial \dot{q}} = 0$   $= \frac{\partial}{\partial E} \left[ m_{1}^{2} \dot{c} \right]^{2} + m_{1}^{2} \left( 2^{2} \dot{c} \right) + r \dot{q} = 0$ 2.064; 3/2 26-36 = 0 = 3± [m(1+cotolit] - [m rel - mgcoto.] = m(utatali - m + ul + mg co (c) = 0 (v)