In[1]:=
```
r = 1;
m = 1;
g = 10;
x1[t_] = r * Cos[ϕ1[t]] * Sin[θ1[t]];
                cosinus        sinus
y1[t_] = r * Sin[ϕ1[t]] * Sin[θ1[t]];
                sinus          sinus
z1[t_] = r * Cos[θ1[t]];
                cosinus
x2[t_] = x1[t] + r * Cos[ϕ2[t]] * Sin[θ2[t]];
                         cosinus        sinus
y2[t_] = y1[t] + r * Sin[ϕ2[t]] * Sin[θ2[t]];
                         sinus          sinus
z2[t_] = z1[t] + r * Cos[θ2[t]];
                         cosinus
T = m / 2 * (x1'[t]^2 + y1'[t]^2 + z1'[t]^2) + m / 2 * (x2'[t]^2 + y2'[t]^2 + z2'[t]^2);
V = m * g * (z1[t] + z2[t]);
L = T - V;
eqϕ1 = D[D[L, ϕ1'[t]], t] - D[L, ϕ1[t]] // FullSimplify;
       ·· oblicz pochodną      oblicz pochodną      uprość pełniej
eqϕ1 /. {ϕ1[t] → ϕ1, ϕ1'[t] → ϕ1', ϕ1''[t] → ϕ1'', ϕ2[t] → ϕ2,
   ϕ2'[t] → ϕ2', ϕ2''[t] → ϕ2'', θ1[t] → θ1, θ1'[t] → θ1', θ1''[t] → θ1'',
   θ2[t] → θ2, θ2'[t] → θ2', θ2''[t] → θ2''} // TraditionalForm
                                                  tradycyjna forma
eqθ1 = D[D[L, θ1'[t]], t] - D[L, θ1[t]] // FullSimplify;
       ·· oblicz pochodną      oblicz pochodną      uprość pełniej
eqθ1 /. {ϕ1[t] → ϕ1, ϕ1'[t] → ϕ1', ϕ1''[t] → ϕ1'', ϕ2[t] → ϕ2,
   ϕ2'[t] → ϕ2', ϕ2''[t] → ϕ2'', θ1[t] → θ1, θ1'[t] → θ1', θ1''[t] → θ1'',
   θ2[t] → θ2, θ2'[t] → θ2', θ2''[t] → θ2''} // TraditionalForm
                                                  tradycyjna forma
eqϕ2 = D[D[L, ϕ2'[t]], t] - D[L, ϕ2[t]] // FullSimplify;
       ·· oblicz pochodną      oblicz pochodną      uprość pełniej
eqϕ2 /. {ϕ1[t] → ϕ1, ϕ1'[t] → ϕ1', ϕ1''[t] → ϕ1'', ϕ2[t] → ϕ2,
   ϕ2'[t] → ϕ2', ϕ2''[t] → ϕ2'', θ1[t] → θ1, θ1'[t] → θ1', θ1''[t] → θ1'',
   θ2[t] → θ2, θ2'[t] → θ2', θ2''[t] → θ2''} // TraditionalForm
                                                  tradycyjna forma
eqθ2 = D[D[L, θ2'[t]], t] - D[L, θ2[t]] // FullSimplify;
       ·· oblicz pochodną      oblicz pochodną      uprość pełniej
eqθ2 /. {ϕ1[t] → ϕ1, ϕ1'[t] → ϕ1', ϕ1''[t] → ϕ1'', ϕ2[t] → ϕ2,
   ϕ2'[t] → ϕ2', ϕ2''[t] → ϕ2'', θ1[t] → θ1, θ1'[t] → θ1', θ1''[t] → θ1'',
   θ2[t] → θ2, θ2'[t] → θ2', θ2''[t] → θ2''} // TraditionalForm
                                                  tradycyjna forma
```

Out[14]//TraditionalForm=

$$\sin(\theta 1)\left(4\,\theta 1'\cos(\theta 1)\,\phi 1' + 2\sin(\theta 1)\,\phi 1'' + \sin(\phi 1-\phi 2)\left(\sin(\theta 2)\,(\phi 2')^2 - \theta 2''\cos(\theta 2)\right) + 2\,\theta 2'\cos(\theta 2)\,\phi 2'\cos(\phi 1-\phi 2) + (\theta 2')^2\sin(\theta 2)\sin(\phi 1-\phi 2) + \sin(\theta 2)\,\phi 2''\cos(\phi 1-\phi 2)\right)$$

Out[16]//TraditionalForm=

$$2\,\theta 1'' + \theta 2''\,(\cos(\theta 1)\cos(\theta 2)\cos(\phi 1-\phi 2) + \sin(\theta 1)\sin(\theta 2)) + 2\cos(\theta 1)\,\theta 2'\cos(\theta 2)\,\phi 2'\sin(\phi 1-\phi 2) + (\theta 2')^2\,(\sin(\theta 1)\cos(\theta 2) - \cos(\theta 1)\sin(\theta 2)\cos(\phi 1-\phi 2)) + \cos(\theta 1)\sin(\theta 2)\,\phi 2''\sin(\phi 1-\phi 2) - \cos(\theta 1)\sin(\theta 2)\,(\phi 2')^2\cos(\phi 1-\phi 2) - \sin(2\,\theta 1)\,(\phi 1')^2 - 20\sin(\theta 1)$$

Out[18]//TraditionalForm=

$$\sin(\theta 2)\left(\sin(\phi 1-\phi 2)\left(\theta 1''\cos(\theta 1) - \sin(\theta 1)\,(\phi 1')^2\right) + 2\,\theta 1'\cos(\theta 1)\,\phi 1'\cos(\phi 1-\phi 2) + (\theta 1')^2\,(-\sin(\theta 1))\sin(\phi 1-\phi 2) + \sin(\theta 1)\,\phi 1''\cos(\phi 1-\phi 2) + 2\,\theta 2'\cos(\theta 2)\,\phi 2' + \sin(\theta 2)\,\phi 2''\right)$$

Out[20]//TraditionalForm=

$$\theta 1'' \cos(\theta 1)\cos(\theta 2)\cos(\phi 1)\cos(\phi 2) + \theta 1'' \cos(\theta 1)\cos(\theta 2)\sin(\phi 1)\sin(\phi 2) + \theta 1'' \sin(\theta 1)\sin(\theta 2) - 2\,\theta 1' \cos(\theta 1)\cos(\theta 2)\,\phi 1' \sin(\phi 1 - \phi 2) + (\theta 1')^2 (\cos(\theta 1)\sin(\theta 2) - \sin(\theta 1)\cos(\theta 2)\cos(\phi 1 - \phi 2)) - \sin(\theta 1)\cos(\theta 2)\,\phi 1'' \sin(\phi 1 - \phi 2) - \sin(\theta 1)\cos(\theta 2)\,(\phi 1')^2 \cos(\phi 1 - \phi 2) + \theta 2'' - \sin(\theta 2)\cos(\theta 2)\,(\phi 2')^2 - 10\sin(\theta 2)$$