

## Problem

2 satellite might collide.

Two satellite have the same velocity because they are in the same orbit.

Momentum before collision is  $m_1v + m_2(-v)$

$M_1 = 400\text{kg}$  and  $m_2 = 100\text{kg} \rightarrow P_i = (400\text{ kg}) v + (100\text{kg}) (-19) = 300\text{kg} (v)$

Momentum

$P_f = (m_1+m_2)v' = (400\text{kg} + 100\text{kg}) v' = (500\text{kg})v'$

$P_i = p_f$

$\rightarrow v' (300\text{kg}/500\text{kg}) v \rightarrow v' = 0.6$

then when decrease speed of wreckage, the wreckage can't stay in the orbit because the velocity depends on radius. When velocity get less it will hit the earth

## Input/output

user will input the mass of satellite 1 and 2 and the altitude and the output will be crash or won't crash.

## Flow Chart



