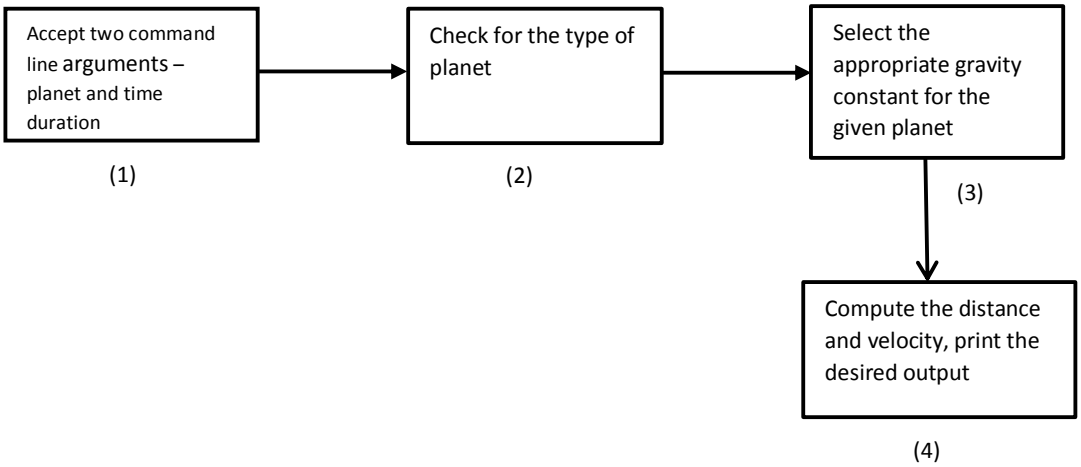
Report: Assignment 3 – *GravityCalculator.java*



This program performs some basic physics calculations. It calculates the distance and velocity of an object from the specified planet. For the implementation of this problem we have instrumented a function which calculates both the required distance and velocity of the object, and consequently prints out the desired formatted output. In the flow diagram the (1) step is to accept exactly two command line arguments – the Planet and the Time Duration – these arguments are then checked, whether if they are of the desired input format and of correct information. The arguments act as the parameters which are passed to the method which computes the measurements. Each time the Planet variable is checked for the type, and the appropriate gravity constant is passed to the method – *Calculations (as defined in the program)* – as shown in (2) and followed by (3). The final (4) step is for displaying the correct output after the computation of Distance and Velocity are done. Variables as denoted in the program:

planet*: Argument passed for the name of the planet.*
time*: Argument passed for the name of the time duration.*
earthGravity: *Gravity constant of the earth.*
marsGravity: *Gravity constant of the mars.*
distance: *Computed distance of the object from the planet.*
velocity: *Computed velocity of the object from the planet.*

The problem, close to being direct there weren't any major implementation changes which were done to the program. Albeit the problem being the way it was, there were basic concepts such as datatypes, how to accept command line arguments, conditional statements, method calling, running the program etc. which were covered during the class, aided us while implementing the program.