Task 6.1: MRSD Wiki Entry Proposal

Team I - Lunar ROADSTER
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Title: Using Google Linear Optimization Package (GLOP) to solve convex optimization problems

The entry will describe how to set up and use GLOP in C++. This is a software package that can be used to solve any linear convex optimization problem. The team used this to optimise the movement of lunar regolith from the source to the crater. We will describe how to set up cost functions, constraints, and how to use the output given by the solver. We will also detail how we used the output to obtain robot poses in the MoonYard cost map.

Initial outline of the Wiki Entry:

- Convex Optimization Definition
- Cost Functions and Constraints
- GLOP Introduction
- GLOP Tutorial
- Example Usage in MoonYard CostMap
- Using the output (Getting Robot Poses)

We believe that this will be a valuable addition to the MRSD Wiki, as solving optimization problems is an inherent part of task planning. Using GLOP will allow students to efficiently solve these problems in real time.