# Solution description

## Overview

Solution was developed as console application. Input data is read from the text file, output result is written to the text file too.

Run program with the command: RobotsOnMars.exe [<input\_file>] [<output\_file>]. Running without arguments assumes input file as “INPUT.TXT”, output file as “OUTPUT.TXT”.

## Assumptions

* All input data are correct, there is no code parts to check it
* Scent doesn’t working in the corners, if orientation is different (not clearly described in task).
* Non-functional requirements (memory usage, time limit) are not described. You can change parameters in tests MemoryTest and SpeedTest to check if program corresponds other limits.

## Design overview

Main classes and their objectives:

* RobotsOnMars – entry point of solution, basic operations with IO.
* MarsFileReader – input data reader according to format
* RobotManageCenter – manages field, processes commands to robots, performs logic of scent, returns robot results
* Robot – performs robot state and commands
* Scent – storage for robots experience. Stores fall down moves in Dictionary container.
* Directory Utils – useful classes for common objects (Point, Vector, Rectangle etc.)
* MagicProvider – constants, settings etc.

## TBD to build entire solution to customer

* Realize input data check and errors processing (1-2ph)
* GUI for work demonstration and input (to be discussed)