

# PACKMAN

## Game explanation:

Pack-Man is a maze game.

The player must maneuver Pac-Man (a small yellow circle with a mouth) and navigate it through a labyrinth, while eating fruit. The stage ends when all fruits are eaten. In addition, four ghosts roam around the maze to catch Pac-Man.

In our project the game is a simulation played on the map of Ariel, Israel.

The user only selects the number of Packmans and fruits and according to a certain algorithm the game will run.

## System structure:

Packages	interface	Classes
<b>Algorithms</b>		ShortestPathAlgo, MultiCsv
<b>Coords</b>	coords_converter	MyCoords
<b>File_Format</b>		Csv2Kml, CSVReader, csvWriter, path2kml
<b>Geom</b>	Geom_element	MyGeomElement, Point3D, Circle
<b>GIS</b>	GIS_element, GIS_layer, GIS_project, Meta_data	myGisElement, myGisLayer, myGisProject, myMetaData
<b>Game</b>		Packman, fruit, game, path, Solution, MapObject
<b>Map</b>		MyMap, GeoPoint, MyFrame, Main, TestConversions, ZoomPanel2

<b>GUI</b>		SimpleJButton, JFrame, Graphics
<b>Test</b>		testCoords

## Game goals:

The goal of the game is for the packmans to eat all the fruits in the shortest possible time

## Algorithm to calculate path:

1. Each Packman gets a slot for the appropriate fruit according to the speed and method calculation.

2. Are there a number of Packmans who have received the same fruit?

If there are any: check out which Pacman has the shortest time for that fruit and choose his route.

3. Clear the slot of the rest packmans to the same fruit.

4. Clear the fruit from the list

5. Check again which fruit is suitable for any Pacman among the remaining Packmans.

If there is a Packman who has already reached his fruit, he will enter the new list of Packmans who need to get slot for suitable fruit.

And repeat the algorithm again.

## How to play?

→ File → load game → choose file

or

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→ **menu** → **add packman / add fruit** (add packman and fruit as much as you like)

→ run game

→ when you want to stop the simulation game press : menu and then stop game

## How to save the game in CSV file?

File → save game → choose folder → change file extension to .csv

## How to upload a saved game CSV file?

File → load game → choose file to open

## How to save a file as a KML in order to run it on google earth?

File → save game → choose folder → change file extension to .kml

## Built With:

Eclipse software

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## Master class diagrams:

Attached to the project

## Authors:

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## Resources:

\* <https://he.wikipedia.org/wiki/%D7%A4%D7%A7-%D7%9E%D7%9F> -  
packman