# Project 9: Arcade-Style Space Game

Nand to Tetris Course Submission

Name: Asaf [Last Name]

RUNI Email: asaf@example.com

Date: January 3, 2025

## Table of Contents



## Concept / Idea

The app is a simple arcade-style game built using the Jack programming language. Players control a spaceship navigating through space while avoiding asteroids and aliens. The game includes interactive elements like shooting projectiles to destroy obstacles and a scoring system to track progress.

## Architecture

The app's architecture consists of several interconnected modules written in Jack. Each module serves a specific purpose, contributing to the overall functionality of the game:

**File Descriptions:**

**Main.jack:**

Acts as the central controller of the app, initializing the game environment, managing game states, and orchestrating interactions between components.

**Spaceship.jack:**

Implements the player's spaceship, handling its movement and collision detection.

**Asteroid.jack:**

Manages the generation and behavior of asteroids, including their random positioning and movement.

**Alien.jack:**

Defines the behavior of alien enemies, their movements, and potential interactions.

**AlienManager.jack:**

Coordinates multiple alien instances, managing their collective behavior.

**Projectile.jack:**

Handles the creation and trajectory of projectiles fired by the spaceship.

**SingleAsteroid.jack:**

Represents an individual asteroid and defines its specific properties.

**Graphics.jack:**

Renders the visual elements of the game and ensures a smooth user experience.

**Random.jack:**

Provides utility functions to generate random values used for placements.

## Motivation

I chose to create this game to apply my understanding of Jack programming and computer science principles in a fun, interactive way. Developing a game allows me to explore problem-solving, modular design, and creative logic while crafting an engaging user experience. It also provides an opportunity to showcase the versatility and potential of the Jack programming language.

## Video Demo (Google Drive Link)

Link: [Insert Your Google Drive Link Here]