**Asteroids – Will Price**

**2025 User Manual**

This manual will run you through the game Asteroids made by Will Price in his computer science advancing programming module, it will cover:  
- The game  
- How to install it   
- How to play it  
- Any bugs that may appear  
- Required system specifications

**Installation Guide:**

This is the installation section of the guide, it will show you how to install the game from GitHub and get it running, this section will cover:  
- Installing the games code  
- Installing processing  
- Getting the game running

**Game Guide:**

This is the game guide; it will cover the following:  
- Controls  
- Win conditions  
- Lose conditions  
- Options and configuration  
- Enemies  
- Mechanics

**Bug Report:**

This is the bug report; it lists all known bugs inside of the games code

**Installation Guide - Processing:**

To get started playing Asteroids you need to install both the game code, and processing which is the engine the game runs on.

To install processing head over to <https://processing.org/download>  
or control + click the link above!

Press the download button and when its finished run the file, it should look like the image below.  


1:   
(The Circles say what to click, and the numbers represent the order)

A screenshot of a computer

AI-generated content may be incorrect.

2.

A screenshot of a computer screen

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3.

A screenshot of a computer system setup

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4.  
A screenshot of a computer

AI-generated content may be incorrect.

After pressing Install you may get some pop ups from a window asking, “Do you want to allow this app to make changes to your device”, you should click “Yes” to all of them otherwise processing won’t be able to install.

Once its finished installing press the “Finish” button to finalize the installation!

**Installation – Asteroids Code:**

To install the game code for Asteroids you need to download it from the GitHub page, head to:  
<https://github.com/LordUK05/Asteroids225>  
or control + click the link above!

1.

A screenshot of a computer

AI-generated content may be incorrect.

2.

Now click on the downloads icon which should look something like

3. RIGHT CLICK the .zip folder downloaded and select “Show in Folder”

A screenshot of a computer

AI-generated content may be incorrect.

4. Now right click the folder and click

A screenshot of a computer

AI-generated content may be incorrect.

After that press extract in the window that pops up, and the game code will now be in your downloads and is runnable!  
Note: The files may look like the image below and not have a Processing file icon, if this happens then you just need to restart the machine.  
A white background with numbers and a line

AI-generated content may be incorrect.

If it is installed correctly there may be an icon next to each of the files, but either way it will say “Processing Python….” As the file type.

**Opening the game:**

To open Asteroids double click Main.pde, this will open the games code on the screen, to get into the game you simply need to click the RUN icon in the top left corner, it looks like the image below

A blue play button in a white circle

AI-generated content may be incorrect.

Or if you want the game in Fullscreen mode, press  
CTRL + SHIFT + R   
All at the same time.

**Game Guide**

This is the game guide, this will talk about everything you need to know to play, configure and win Asteroids.  
  
Controls:

The controls in Asteroids mainly consist of a few different types:  
  
Mouse:

The mouse is used for selecting options in Asteroids, such as opening the settings menu, and clicking play  
The mouse’s scroll wheel is also used in Asteroids for changing how many enemies and how fast they move in the settings menu  
The main usage of the mouse in Asteroids is for shooting enemies, use the mouse to point in the direction of an enemy, and

Keyboard:  
The keyboard is used for moving in Asteroids  
Using W, A, S and D moves you in the 4 cardinal directions  
W moves you upwards  
A moves you left  
S moves you down  
and   
D moves you right  
The key ESC or Escape is used to close the Game.

Win conditions:

Asteroids does not have a specific “Win” condition, instead the game is endless, and you keep fighting enemies until you lose. This experience can be tailored to your liking in the settings menu.

**Lose conditions:**

The way you lose in Asteroids is by dying to an enemy, this happens when you and an Asteroid collide, this game gives you only 1 life, so to be fair you get a small invincibility period between enemy waves and when the game first starts

**Options and configuration:**

Asteroids has a small number of configurable features, the list is as follows:

EnemyCount - how many enemies spawn in each wave  
EnemySpeed - how fast those enemies move  
DEBUG – This setting enables a lot of diagnostic information, for the more technically inclined.

A screenshot of a video game

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**Enemies:**

In Asteroids the thing that you are fighting is the Asteroids also called enemies, they have 2 varieties, small and large:

A white line on a black background

AI-generated content may be incorrect.

The enemies pick a direction and move in it, they don’t change this direction until they hit the edge of the playable region which looks like:

**A black background with red lines

AI-generated content may be incorrect.**

If they hit that edge, they then go in the exact opposite direction towards the inside of the playable region.

When killed an asteroid will split into 2 smaller asteroids, if they are killed again, they disappear and will not spawn again until the next wave of asteroids begins

To being a new wave of asteroids all asteroids on the screen must be destroyed

**Mechanics:**

The main mechanic the game revolves around is the players spaceship, it can move around with the WASD keys as mentioned above and the mouse can be used to look around and shoot

The shooting function of the players spaceship will fire a small projectile that looks like this

A small white dot in the sky

AI-generated content may be incorrect.

At the asteroids, if the projectile hits the asteroid, it will destroy it

The asteroids can split into 2 when killed and every asteroid whether small or big can kill the player

**Bug Report:**

Throughout development the utmost effort has been put into Asteroids to ensure that there are no bugs, however due to the game being made by a single developer, there tend to be issues that slip through, While as many bugs as I could find are listed here, there may be more inside of the game that haven’t been found yet.

Known Bugs:

Top Left – This bug causes enemies to behave incorrectly, when moving into the top left corner of the map, enemies will be pushed downwards (south) out of the map, causing them to trigger the OOB detection and respawn inside of the playable area, this causes them to lose their state and become a “big” enemy

Bugged Collision – This bug revolves around how the collision detection works in Processing as an engine, because doing collision detection on shapes other than squares is mathematically complex and computationally heavy all the games hitboxes are square, which causes some desync between how an object looks, and how its hitbox interacts, making some collisions feel improper.

Stationary Enemies – This bug comes from the fact that enemies have their velocity randomly decided, and can therefore pick 0, it’s a somewhat common bug but there wasn’t time to fix it before release due to constraints, this just means some of the enemies are stationary, the smaller asteroids created when an enemy is destroyed can have this issue too.