

Pong Game with Unity & C#

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PLAYER 1

1

0

PLAYER 2



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QUIT THE
GAME

Plan prezentacji

- Temat
- Inspiracja
- C# vs Java
- Unity





C# vs Java



AKTUALNA WERSJA	7.3	11
PLATFORMA SYSTEMOWA	wieloplatformowy	wieloplatformowy
PLATFORMA SPRZĘTOWA	.NET Framework	wieloplatformowy
OBIEKTOWOŚĆ	TAK	TAK
WYSOKOPOZIOMOWOŚĆ	TAK	TAK
IDE	Microsoft Visual Studio	IntelliJ IDEA
TIOBE index (2019)	6	1



C# vs Java



.NET Framework

C# Code
(.cs)

C#
Compiler

Common Intermediate
Language (.exe or .dll)

Common Language
Runtime

using
.NET Class Libraries

Assembly Code

Assembler

Machine
Code

Java Runtime Environment

Java Code
(.java)

Java
Compiler

Bytecode
(.class)

Java Virtual Machine
using
Java Class Libraries

Assembly Code

Assembler

Machine
Code



C# vs Java



A:B	A extends B
A:B	A implements B
using UnityEngine;	import java.lang.Math;
<pre>public void MoveBall() { // code }</pre>	<pre>public void moveBall(){ // code }</pre>
bool	boolean
sbyte	byte



C# vs Java



object	Object
string	String
for/foreach	for
namespace	package
is	instanceof
sealed	final
base	super



C# = Java + C++;

C#

C++

- Pointer operations (unsafe coding)
- Operator overloading
- Preprocessor directives
- Structs, enums, and many others

Java

- Class structure
- Single inheritance
- Interfaces
- Garbage collection
- Code safety
- Stricter typing
- Removal of global types

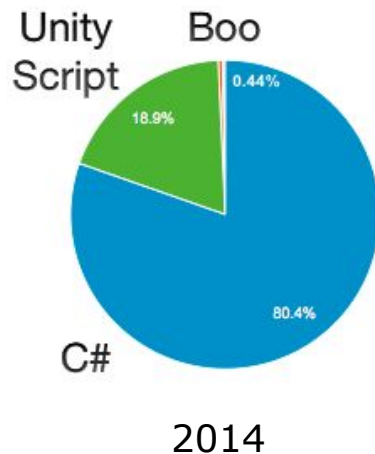
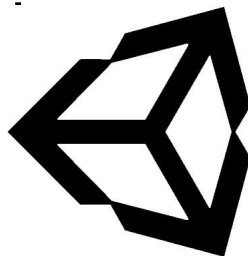
Extras:

- Properties
- Indexes
- Attributes
- Delegates
- Events



Unity

- C#, UnityScript (~JavaScript, do 2017), Boo(~Python, do 2015)
- Tworzenie - Windows, Linux, MacOS
- Uruchamianie - Powyższe + Xbox, PlayStation, Windows Android, IOS, VR, ...



The most popular game engines + games

- **Unity** (C#, Hearthstone: Heroes of Warcraft, Angry Birds 2, Pokémon Go, Firewatch, Gwint: Wiedźmińska gra karciana)
- **Creation Engine** (C++, The Elder Scrolls V: Skyrim, Fallout 4)
- **Unreal Engine** (C++, Batman: Arkhman, Fortnite)
- **REDengine** (C++, The Witcher 2: Assassins of Kings, The Witcher 3: Wild Hunt)
- **AnvilNext** (C++, Assassin's Creed*)
- many more...



REDengine

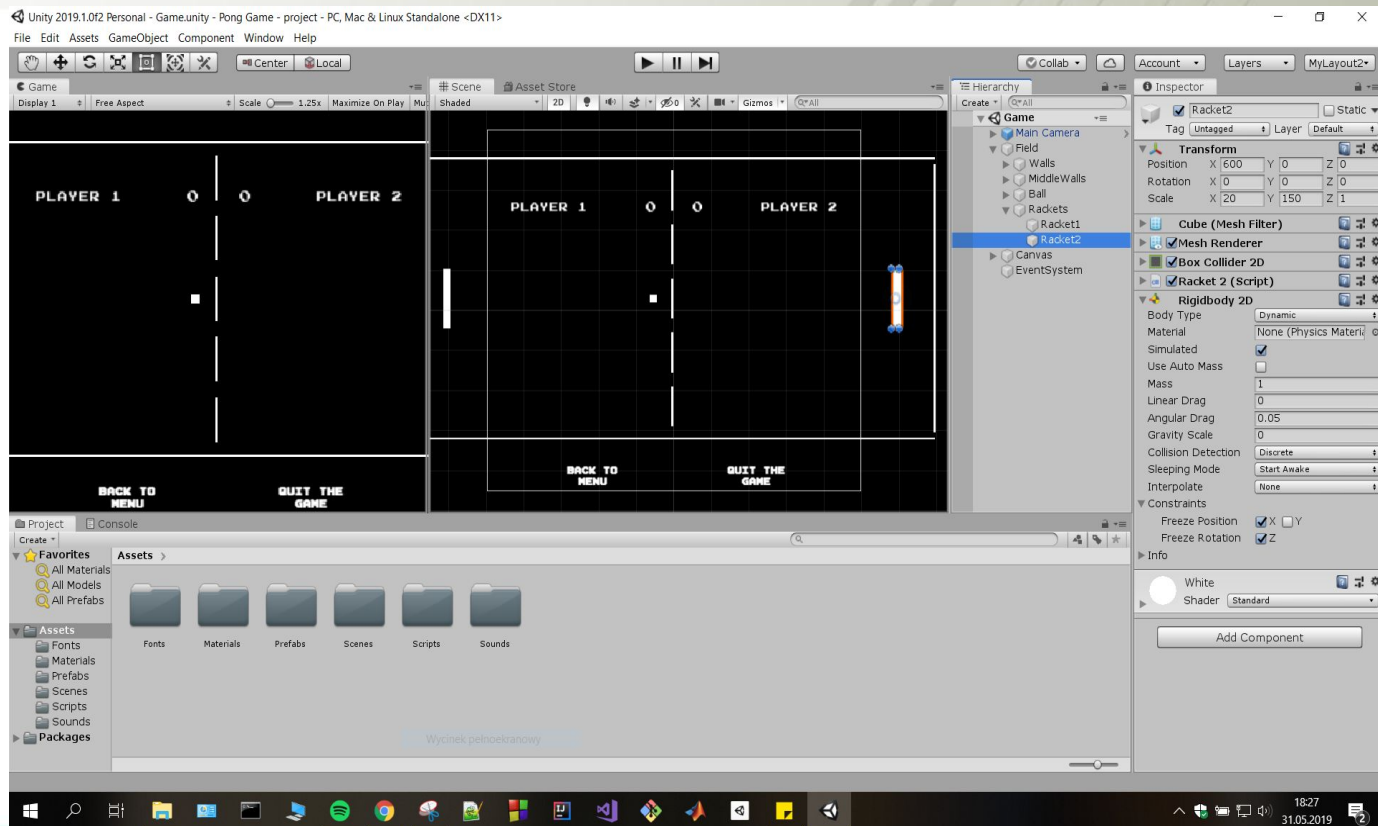


UNREAL
ENGINE



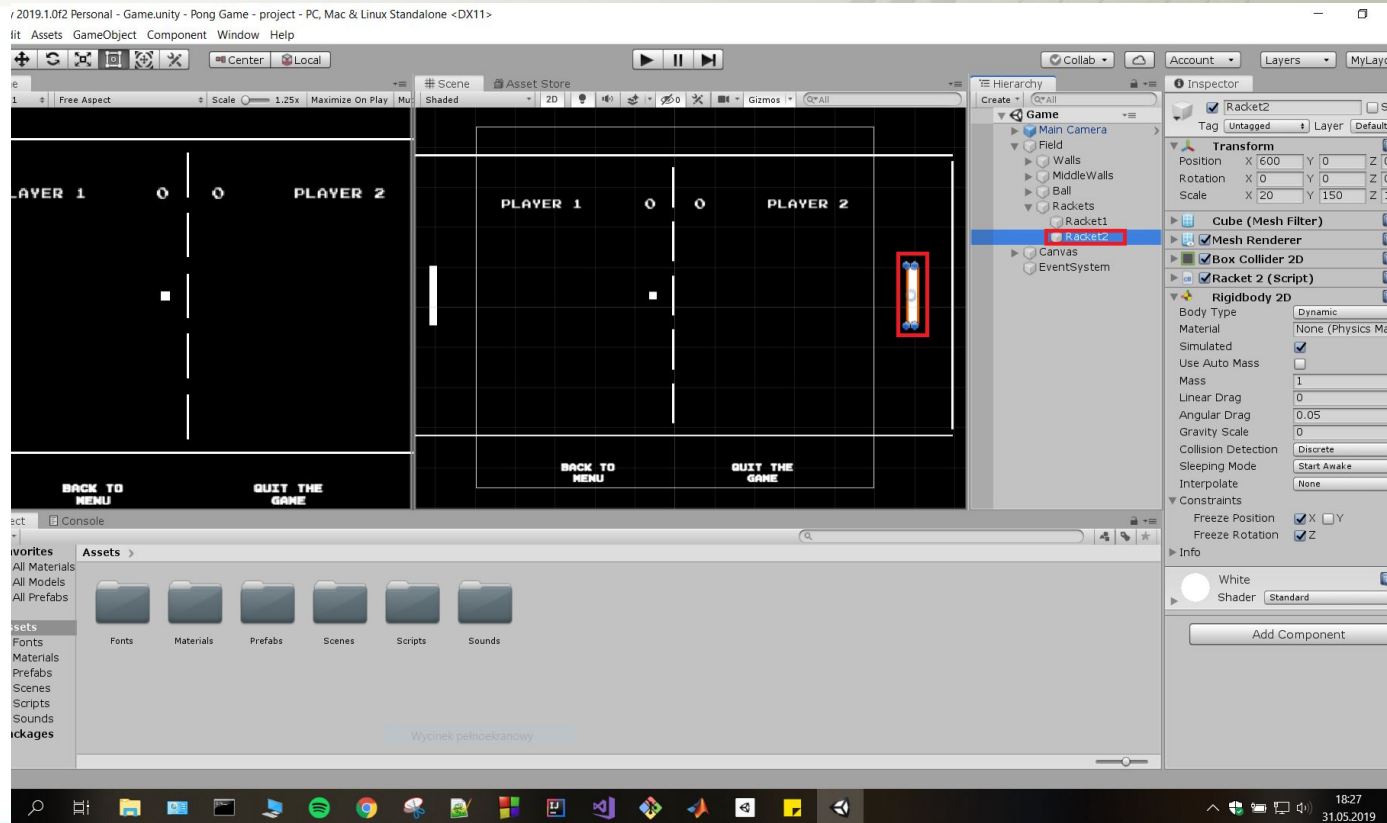
Unity - podstawowe pojęcia

- GameObject
- Components
- Assets
- Scenes
- Scripts
- Inspector
- Hierarchy
- Layout
- Game



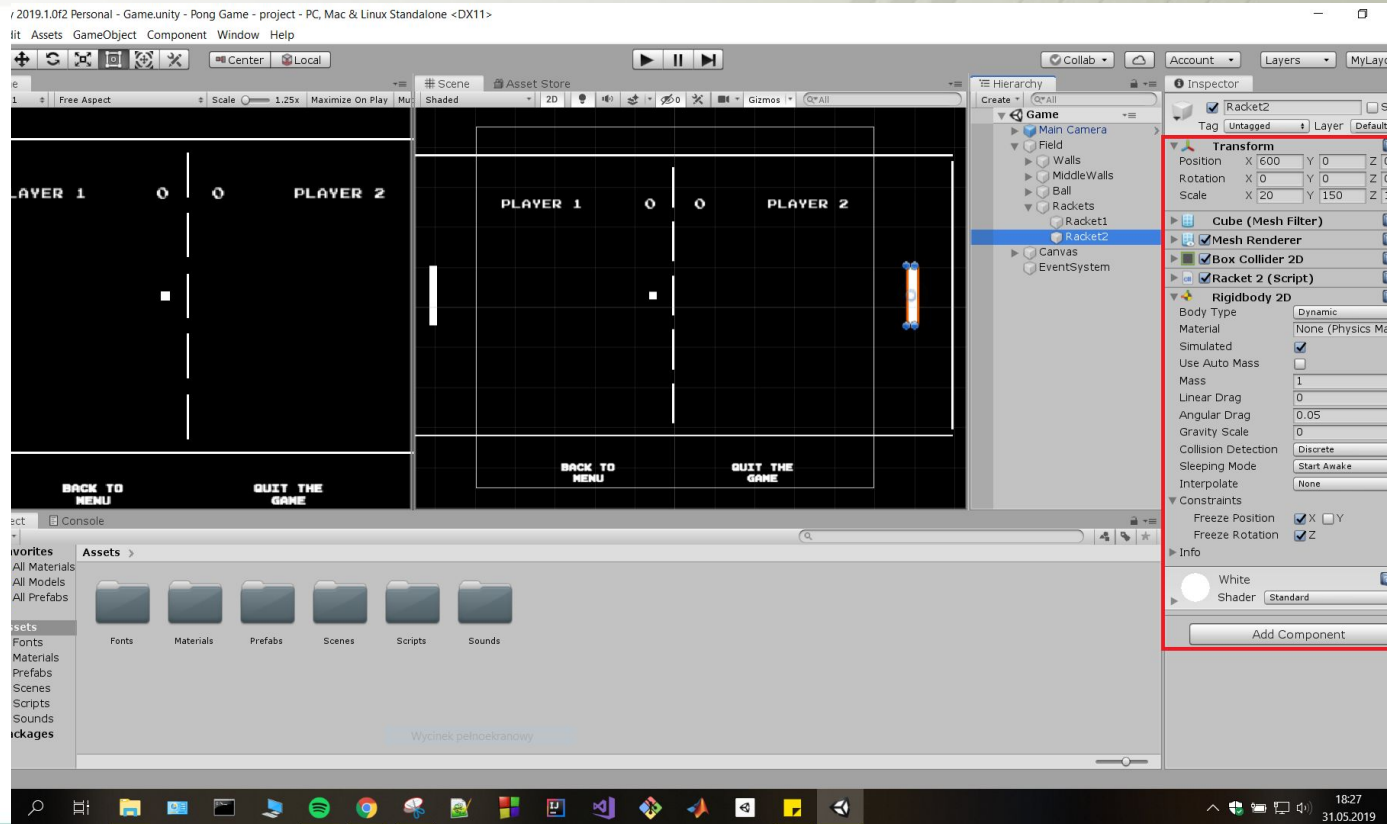
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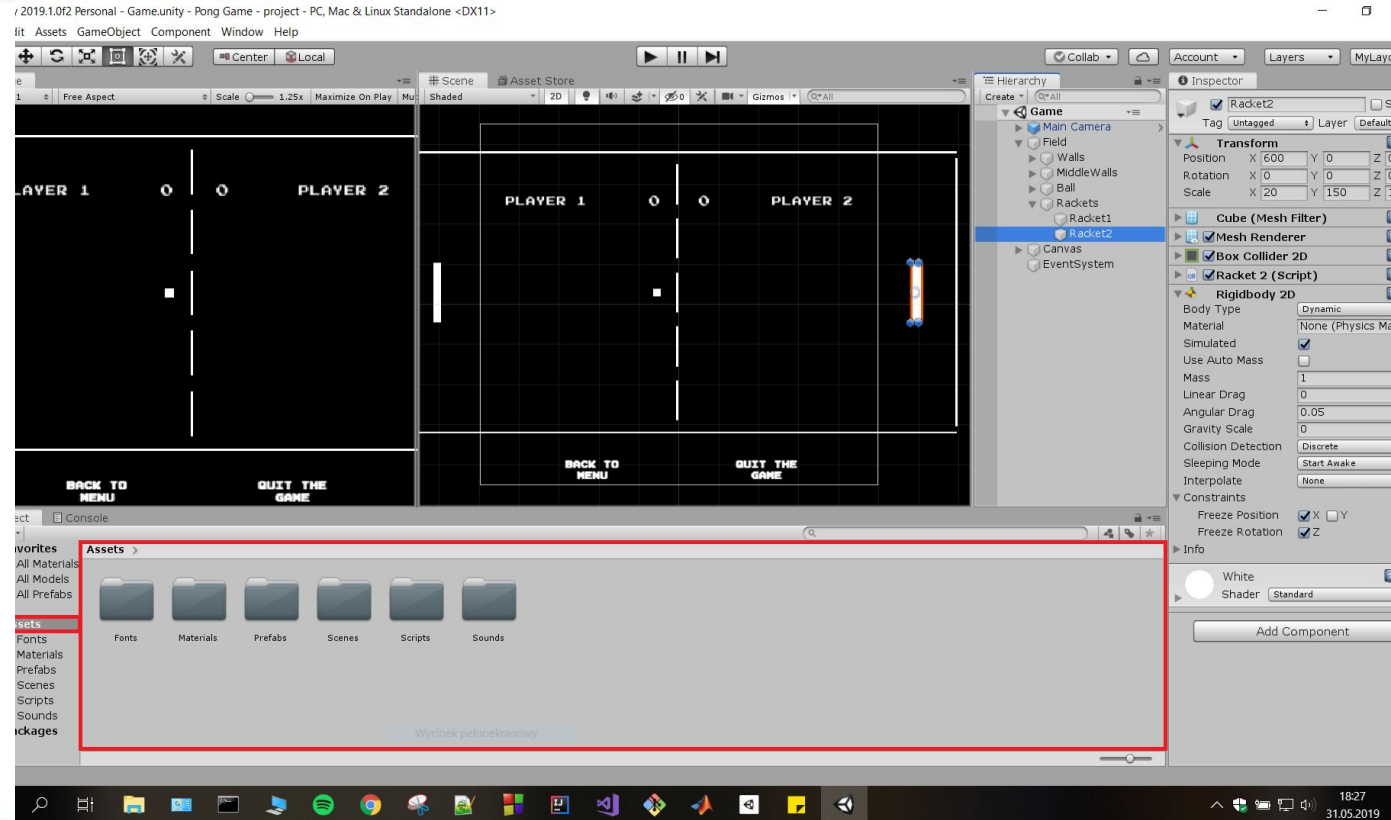
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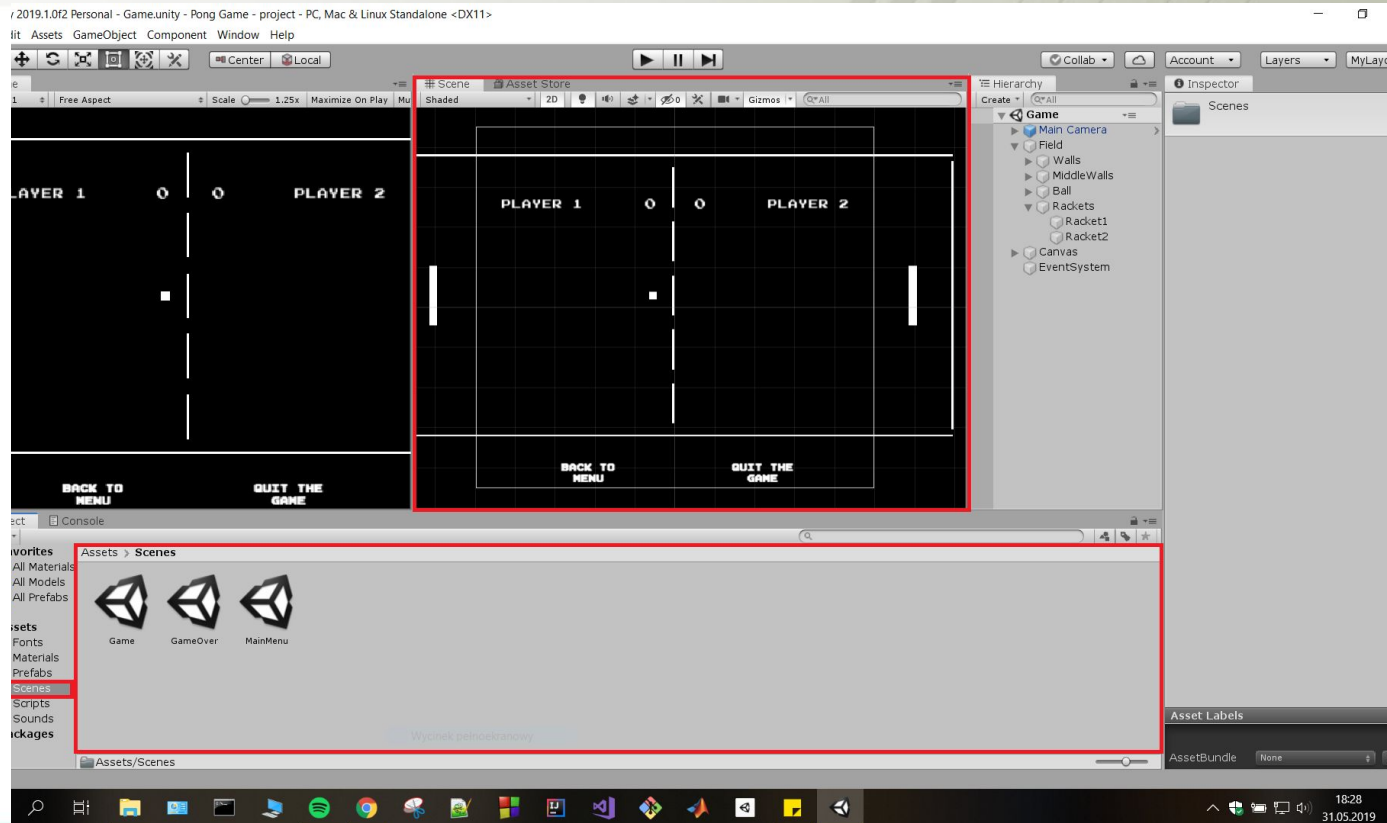
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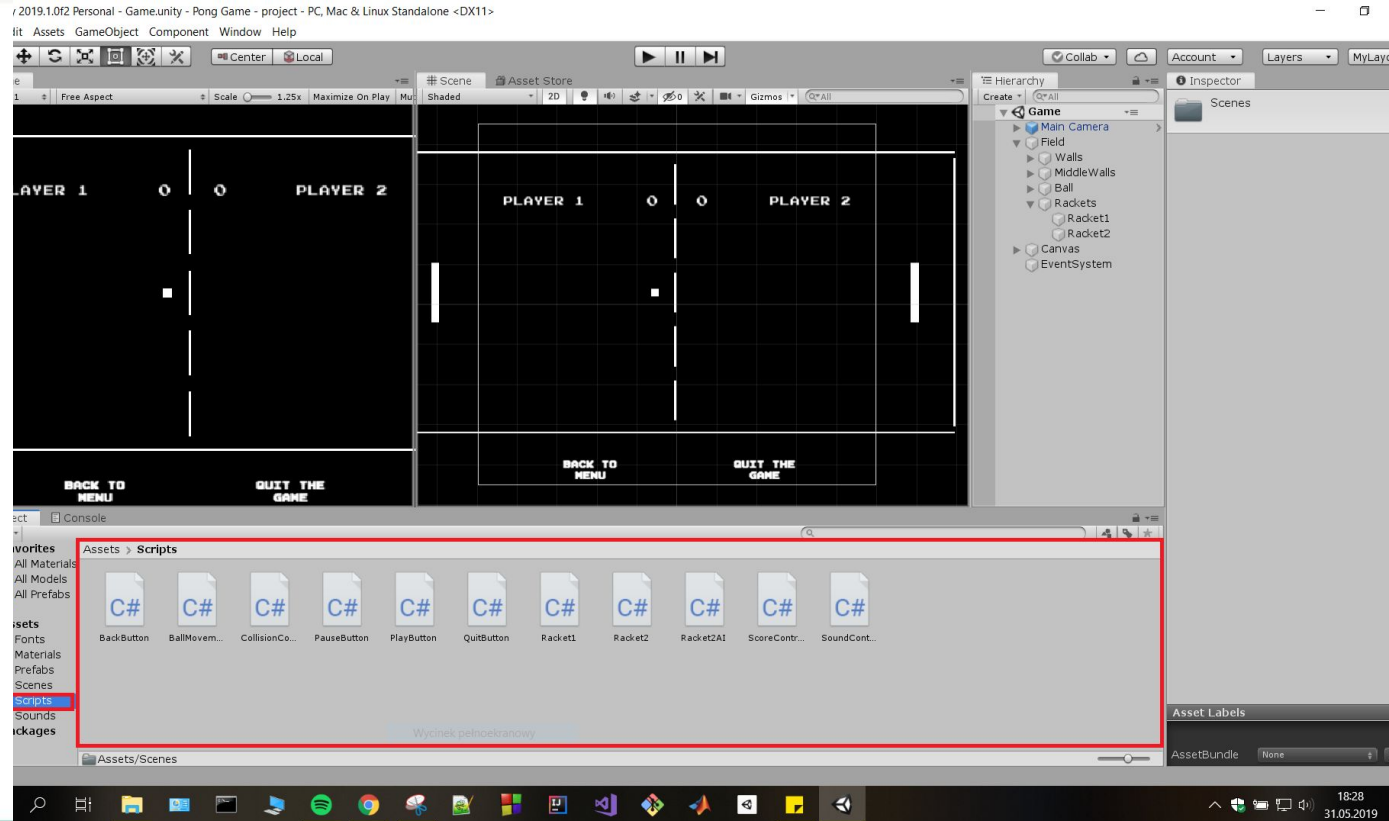
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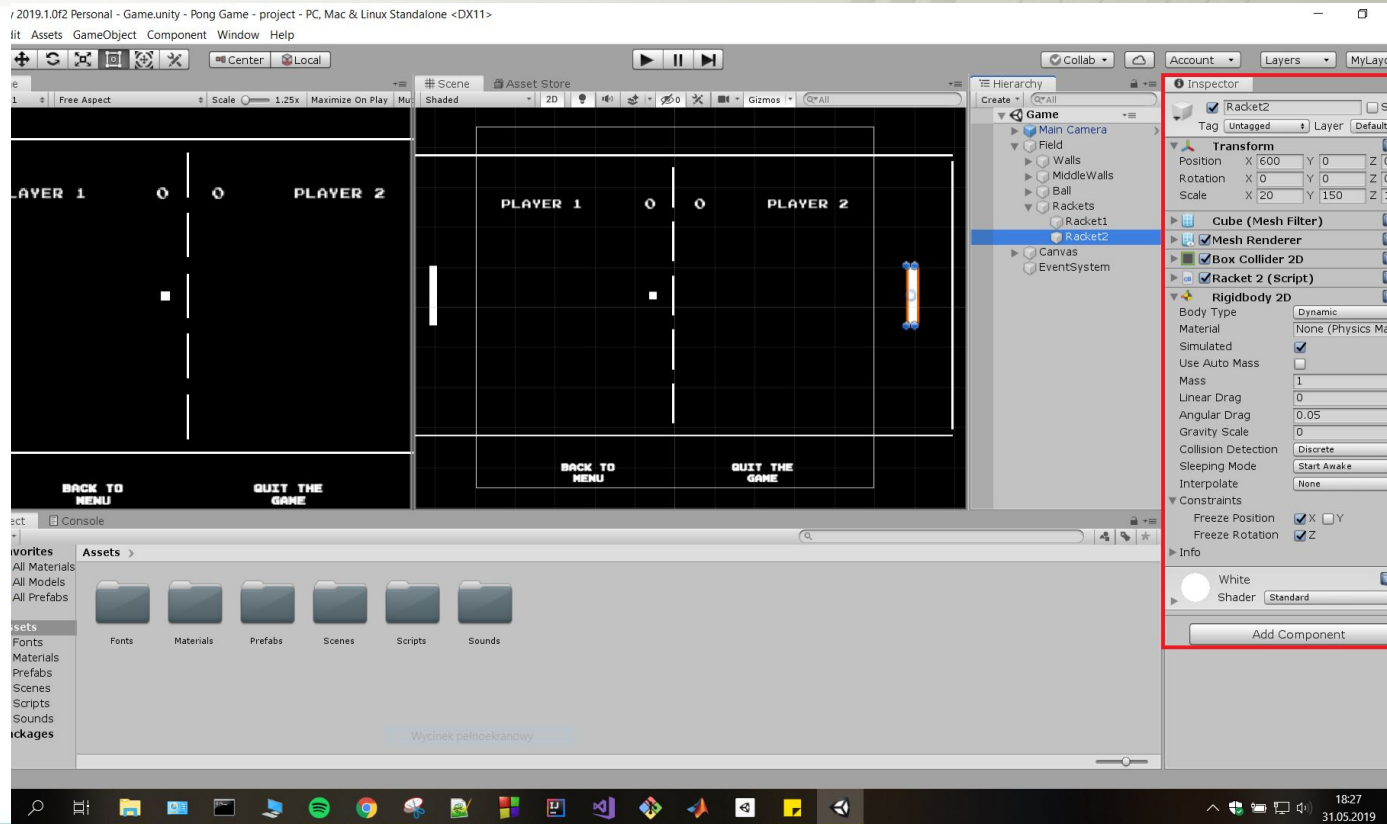
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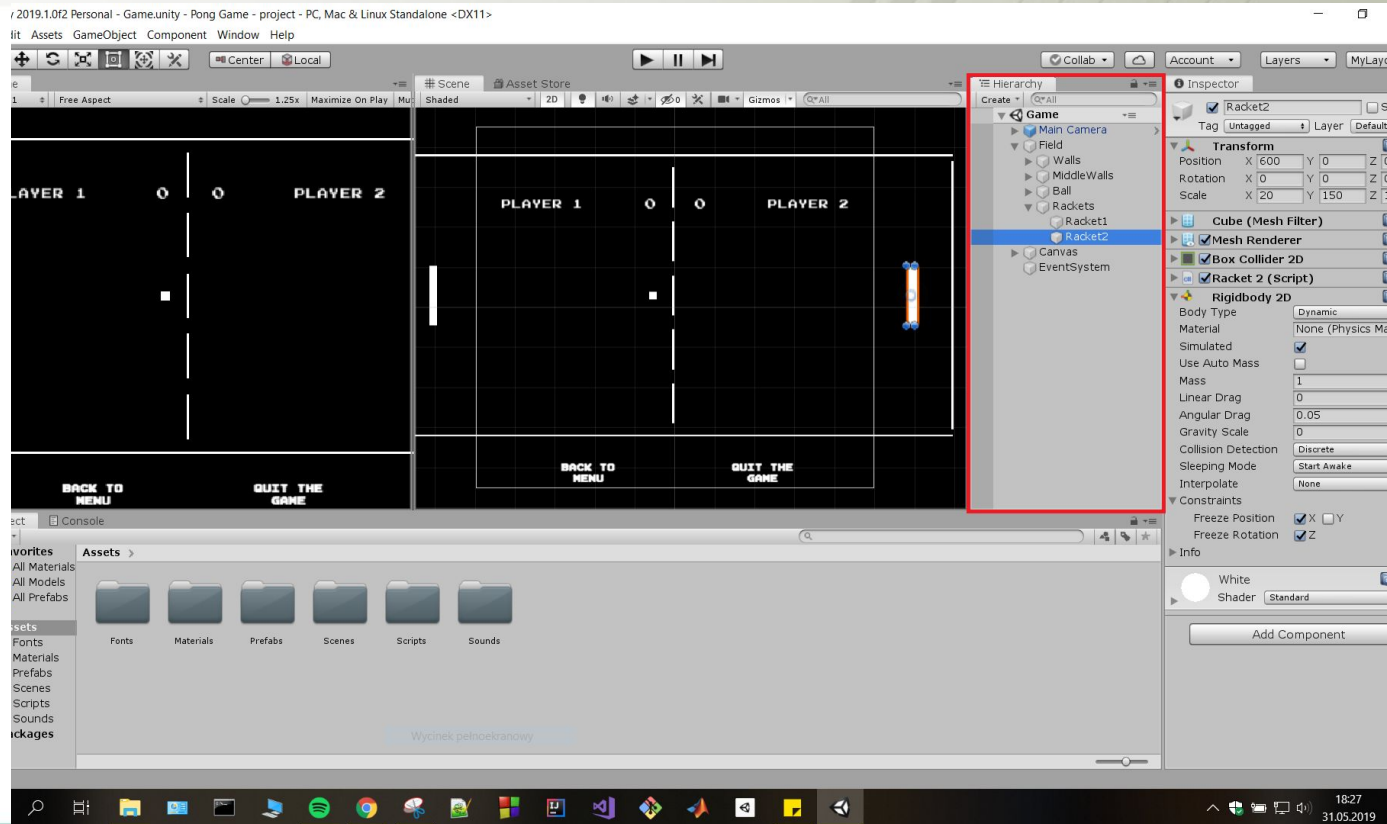
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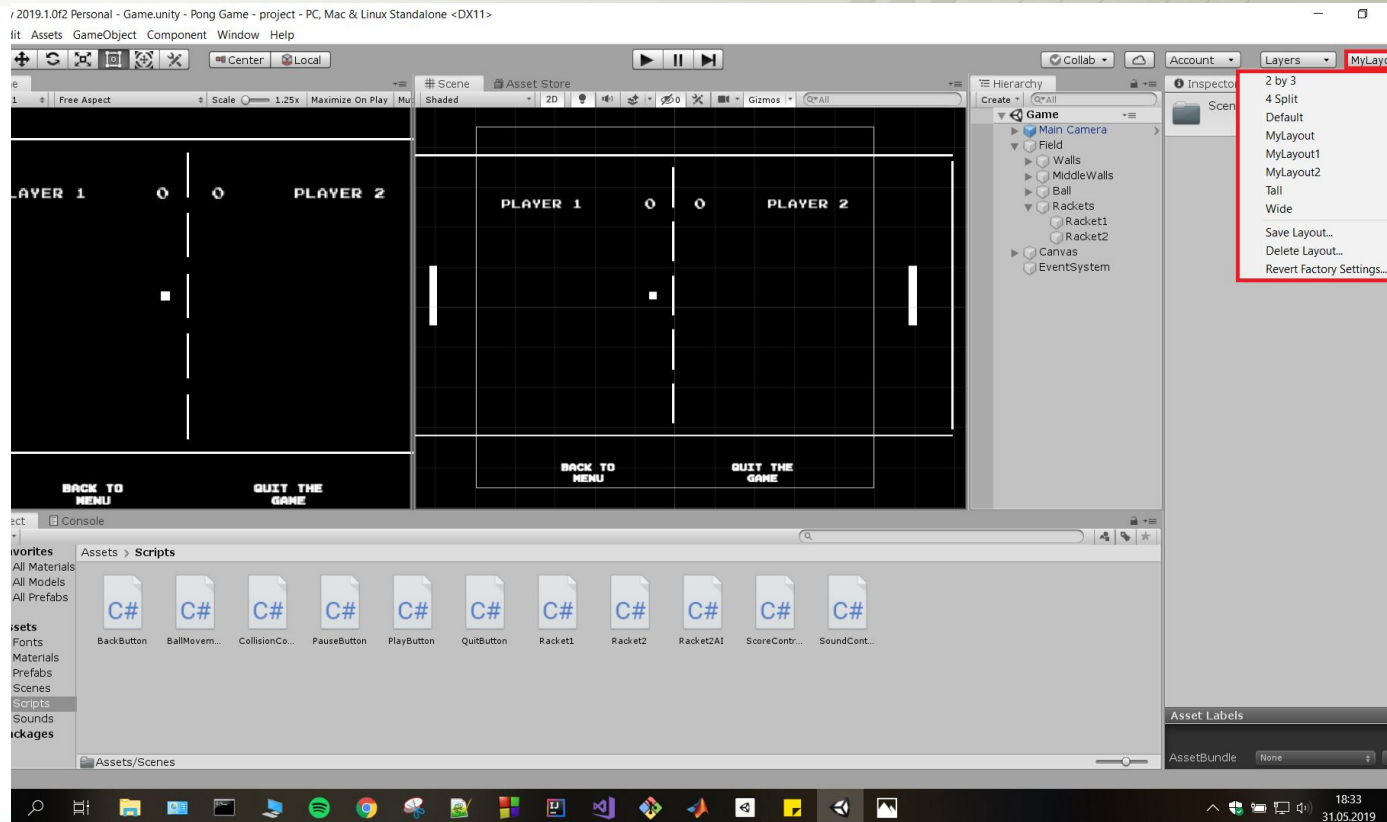
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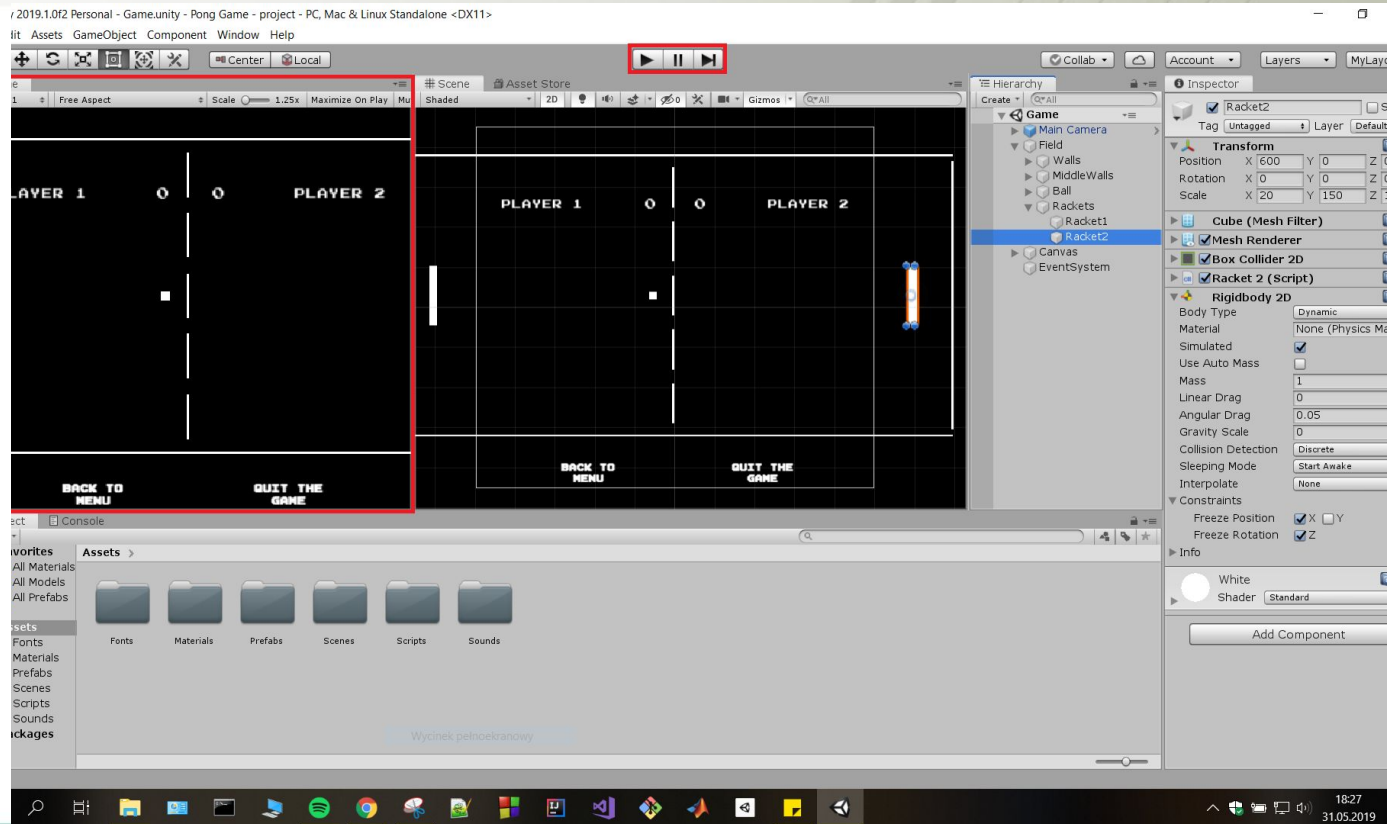
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Unity - podstawowe pojęcia

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- Layout
- **Game**



Dziękuję za uwagę.

Przechodzimy do części
praktycznej.