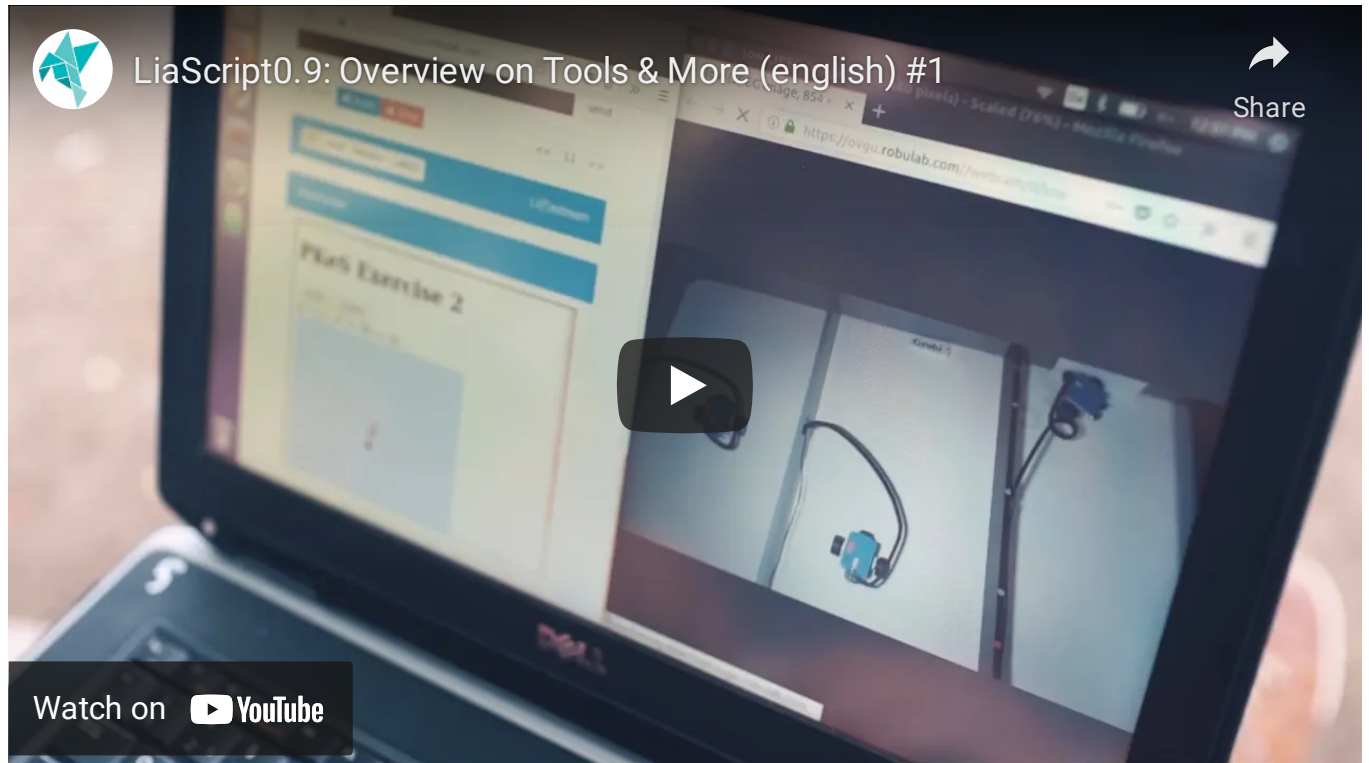


Example Course

This course illustrates the integration of LiaScript based learning content in Learning Management Systems. Visit the youtube channel of LiaScript to get an overview about already implemented features.



Interactive Tables

Click to [Bar chart](#) for visualizing diagram's content.

Animal	weight in kg	Lifespan years	Mitogen
Mouse	0.028	02	95
Flying squirrel	0.085	15	50
Brown bat	0.020	30	10
Sheep	90	12	95
Human	68	70	10

More information about interactive tables are available [here](#)

Quizzes

What is the derivative function of $f(x) = x^6$?

selection



What is $37 + 15$?

More information about quizzes are available [here](#)

Executable and editable Codes

js based interpreters

PlotSin.py

```
1 import numpy as np
2 import matplotlib.pyplot as plt
3
4 t = np.arange(0.0, 2.0, 0.01)
5 s = np.sin(2 * np.pi * t)
6
7 fig, ax = plt.subplots()
8 ax.plot(t, s)
9
10 ax.grid(True, linestyle='-.')
11 ax.tick_params(labelcolor='r', labelsizе='medium', width=3)
12
13 plt.show()
14
15 plot(fig) # <- this is required to plot the fig also on the LiaScript
    canvas
```

downloading module => numpy

downloading module => matplotlib

More information about the Pyodide plugin are available [here](#)

Server based compiling and execution

Program.cs

```
1 using System;
2 using System.Collections.Generic;
3 using System.Collections;
4 using System.Linq;
5 using System.Text;
6
7 int n;
8 Console.WriteLine("Number of primes: ");
9 n = int.Parse(Console.ReadLine());
10
11 ArrayList primes = new ArrayList();
12 primes.Add(2);
13
14 for(int i = 3; primes.Count < n; i++) {
15     bool isPrime = true;
16     foreach(int num in primes) isPrime &= i % num != 0;
17     if(isPrime) primes.Add(i);
18 }
19
20 Console.WriteLine("Primes: ");
21 foreach(int prime in primes) Console.Write($" {prime}");
```

project.csproj

```
1 <Project Sdk="Microsoft.NET.Sdk">
2   <PropertyGroup>
3     <OutputType>Exe</OutputType>
4     <TargetFramework>net5.0</TargetFramework>
5   </PropertyGroup>
6 </Project>
```

Number of primes:

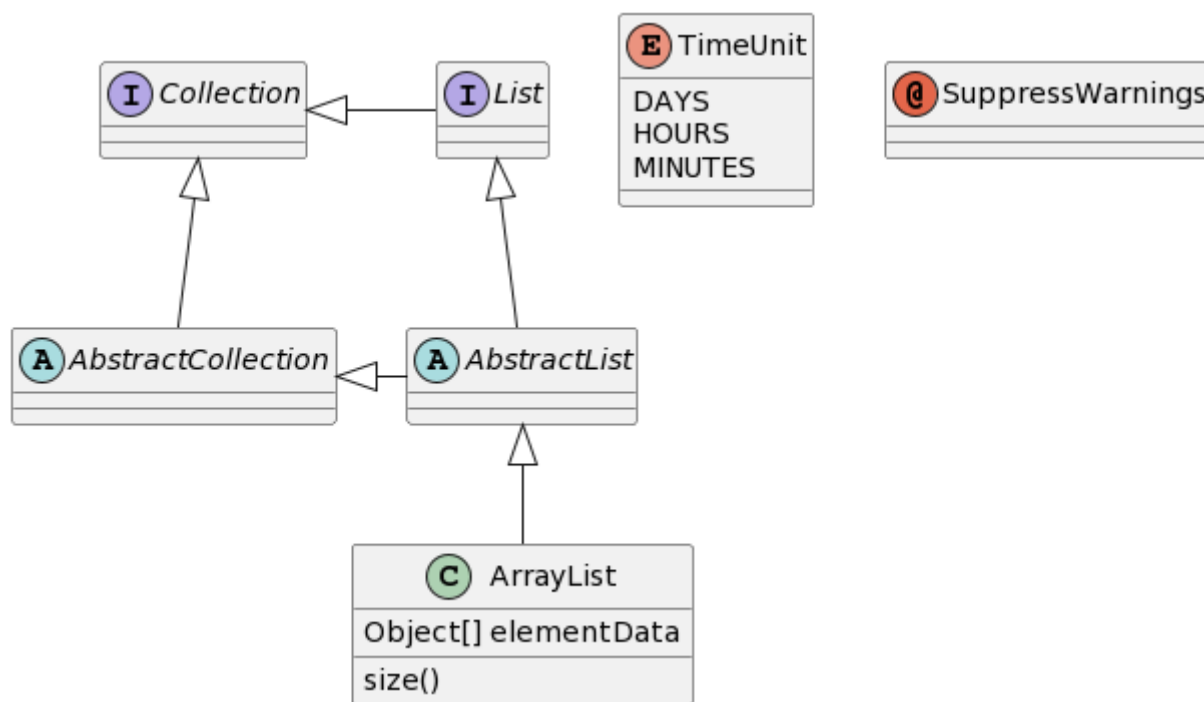
More information about the Coderunner plugin are available [here](#)

Diagrams and Schemas

Software development

PlantUML.txt

```
1 @startuml
2
3 abstract class AbstractList
4 abstract AbstractCollection
5 interface List
6 interface Collection
7
8 List <|-- AbstractList
9 Collection <|-- AbstractCollection
10
11 Collection <|-- List
12 AbstractCollection <|-- AbstractList
13 AbstractList <|-- ArrayList
14
15 class ArrayList {
16     Object[] elementData
17     size()
18 }
19
20 enum TimeUnit {
21     DAYS
22     HOURS
23     MINUTES
24 }
25
26 annotation SuppressWarnings
27
28 @enduml
```







https://www.plantuml.com/plantuml/png/LO-_JWCn38TtFuL76Fe63Aqe4aX09QudX1236mmAI dnLx0pyuTtffLH99ik_xtCSBzKeMOu1W7PgY0s8czq7Etj-GGuSMMnDHeTO_HUVdSCL04kEkFMHH_77aVNgQJYKwy tuCDUxc_jnUpNCBebCHkLdGzx14wi-KX81xm gmP7dDCVm1

More information about this plugin are available [here](#)

Chemistry

2 He Helium 4.0026022	10 Ne Neon 20.17976	18 Ar Argon 39.9481	36 Kr Krypton 83.7982	54 Xe Xenon 131.2936	86 Rn Radon 222	118 Og Oganesson 294
	9 F Fluorine 18.9984031636	17 Cl Chlorine 35.45	35 Br Bromine 79.904	53 I Iodine 126.904473	85 At Astatine 210	117 Ts Tennessine 294
	8 O Oxygen 15.999	16 S Sulfur 32.06	34 Se Selenium 78.9718	52 Te Tellurium 127.603	84 Po Polonium 209	116 Lv Livermorium 293
	7 N Nitrogen 14.007	15 P Phosphorus 30.9737619985	33 As Arsenic 74.9215956	51 Sb Antimony 121.7601	83 Bi Bismuth 208.980401	115 Mc Moscovium 289
	6 C Carbon 12.011	14 Si Silicon 28.085	32 Ge Germanium 72.6308	50 Sn Tin 118.7107	82 Pb Lead 207.21	114 Fl Flerovium 289
	5 B Boron 10.81	13 Al Aluminium 26.98153857	31 Ga Gallium 69.7231	49 In Indium 114.8181	81 Tl Thallium 204.38	113 Nh Nihonium 286
			30 Zn Zinc 65.382	48 Cd Cadmium 112.4144	80 Hg Mercury 200.5923	112 Cn Copernicium 285
			29 Cu Copper 63.5463	47 Ag Silver 107.86822	79 Au Gold 196.9665695	111 Rg Roentgenium 282
			28 Ni Nickel 58.69344	46 Pd Palladium 106.421	78 Pt Platinum 195.0849	110 Ds Darmstadtium 281

Category key:

-  Diatomic Nonmetal
-  Noble Gas
-  Alkali Metal
-  Alkaline Earth Metal

71 Lu Lutetium 174.96681	103 Lr Lawrencium 266
70 Yb Ytterbium 173.0451	102 No Nobelium 259
69 Tm Thulium 168.934222	101 Md Mendelevium 258
68 Er Erbium 167.2593	100 Fm Fermium 257
67 Ho Holmium 164.930332	99 Es Einsteinium 252
66 Dy Dysprosium 162.5001	98 Cf Californium 251
65 Tb Terbium 158.925352	97 Bk Berkelium 247
64 Gd Gadolinium 157.253	96 Cm Curium 247

Simulations

Embedded Systems

Run an Arduino example by clicking the button below the code. Adapt the content for changing the light pattern.



Simulation time: 00:02.343

ExtendedHelloWorld.cpp

```
1 byte leds[] = {13, 12, 11, 10};
2 void setup() {
3     Serial.begin(115200);
4     for (byte i = 0; i < sizeof(leds); i++) {
5         pinMode(leds[i], OUTPUT);
6     }
7 }
8
9 int i = 0;
10 void loop() {
11     Serial.print("LED: ");
12     Serial.println(i);
13     digitalWrite(leds[i], HIGH);
14     delay(250);
15     digitalWrite(leds[i], LOW);
16     i = (i + 1) % sizeof(leds);
17 }
```

Sketch uses 2238 bytes (6%) of program storage space. Maximum is 32256 bytes.

Global variables use 200 bytes of dynamic memory.

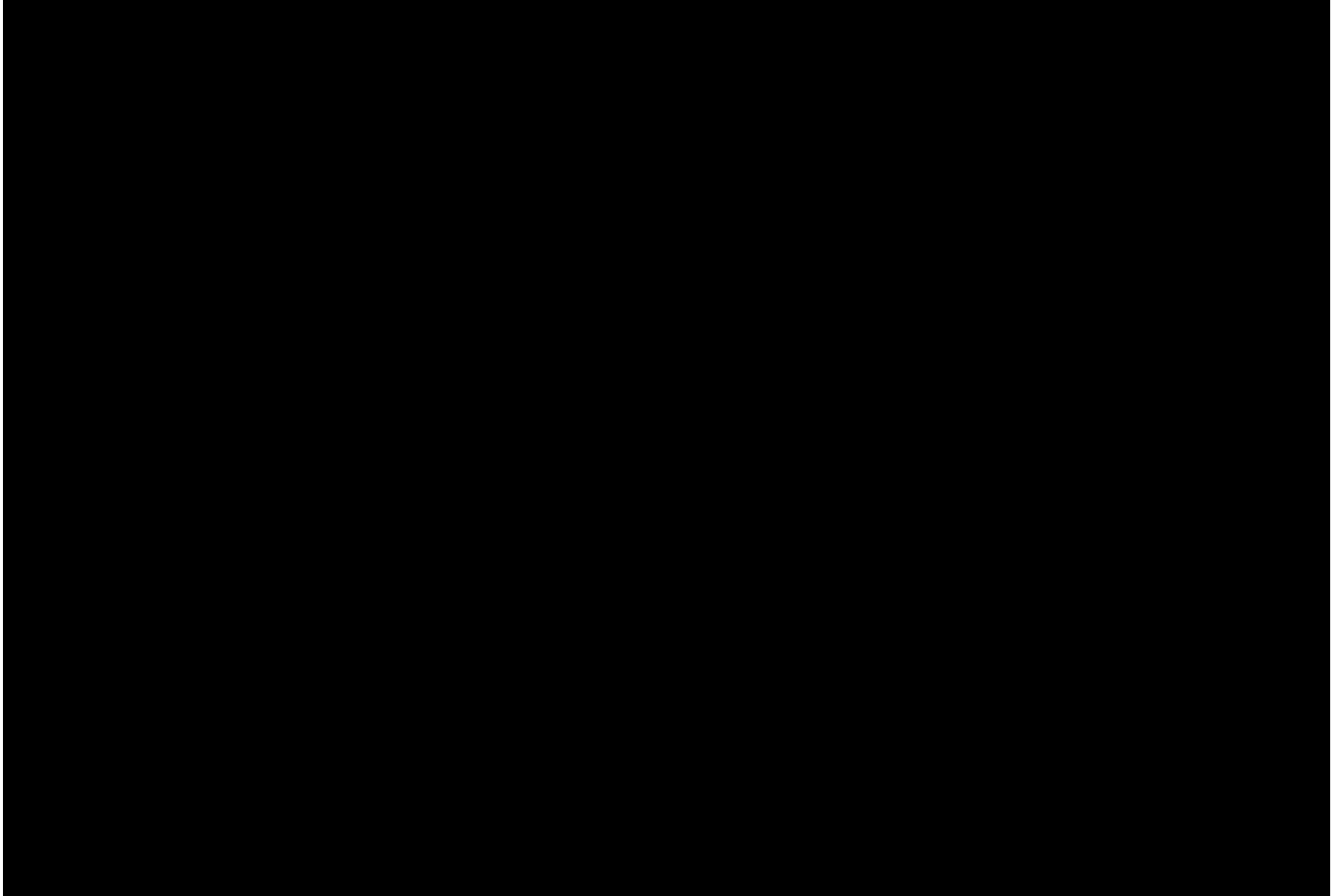
```
LED: 0
LED: 1
LED: 2
LED: 3
LED: 0
LED: 1
LED: 2
LED: 3
LED: 0
LED: 1
```

More information about the AVR8js plugin are available [here](#)

Visualization

Note: This might take a while, to load and render the vti data set within the browser.

Examine the 3D object by mouse movements and clicks.



More information about the VTK plugin are available [here](#)