

Interactive Session: Installing Python and Getting Code for Branching Processes

Step 1:

Google: “spyder python download”



Spyder IDE

<https://www.spyder-ide.org>

Home — Spyder IDE

Spyder is a free and open source scientific environment written in Python, for Python, and designed by and for scientists, engineers and data analysts.

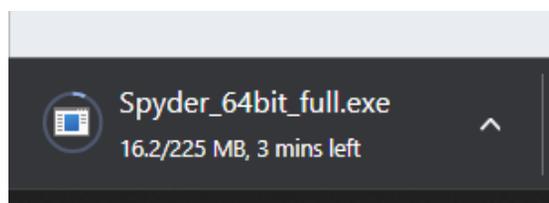
Step 2: Scroll down to this button:

use Spyder through a Conda-based distribution instead. For a detailed guide to this and the other different ways to obtain Spyder, refer to our full [installation instructions](#), and check out our [release page](#) for links to all our installers. Happy Spydering!



Download for Windows

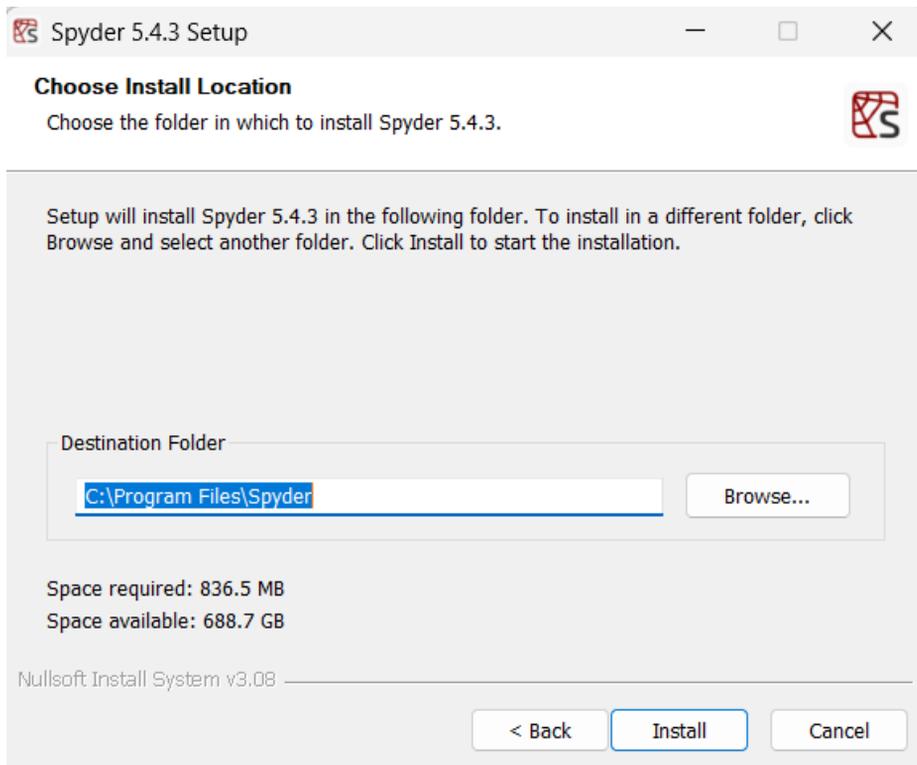
Step 3: Wait for it to download:



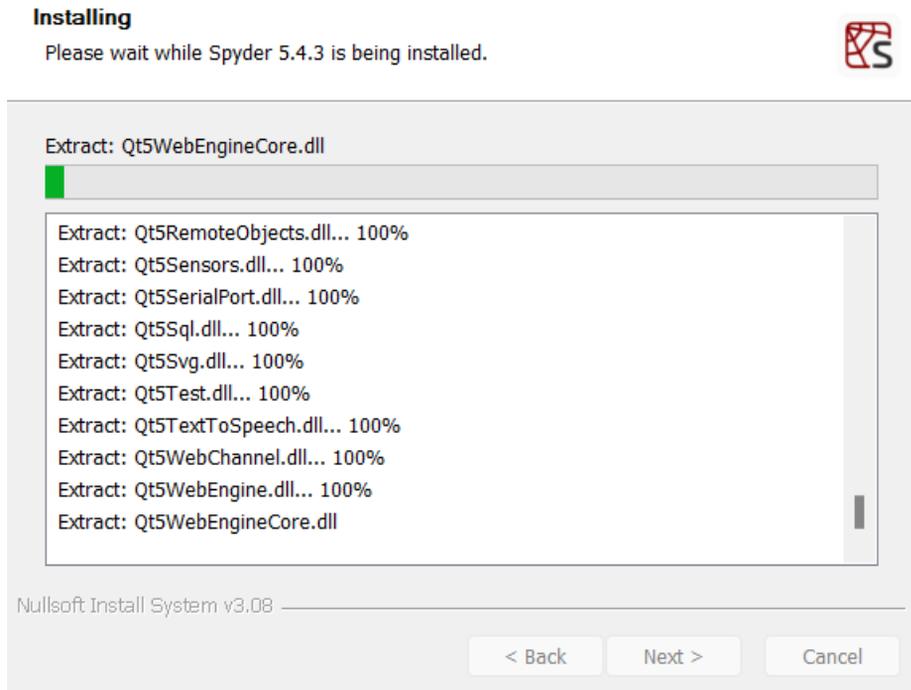
Step 4: Click on the downloaded file and click “Next”



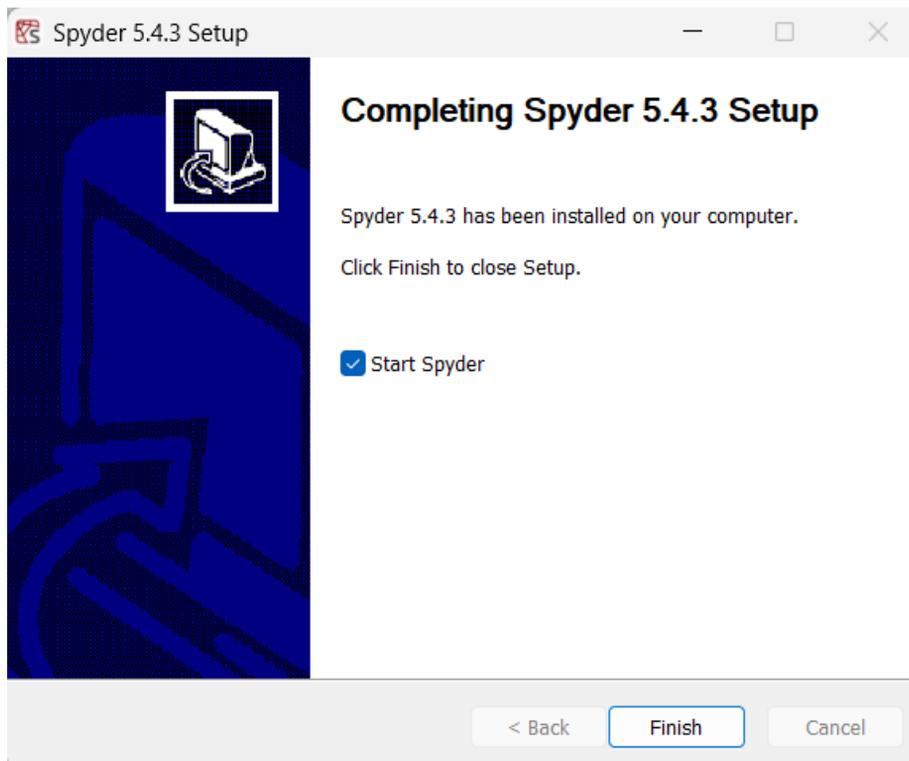
Step 5: Keep clicking next and then “Install”:



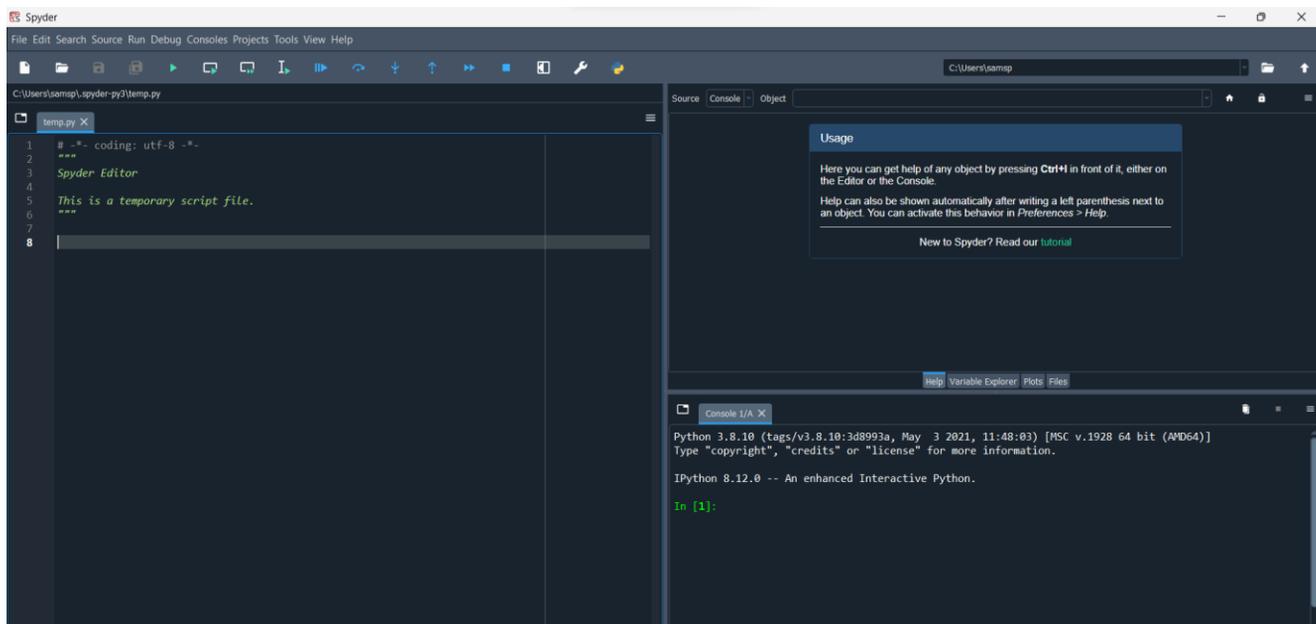
Wait to install (takes ~5 minutes):



Step 6: Click “Finish”



Spyder should load, looks like this:



Get code for session from this link:

<http://www1.maths.leeds.ac.uk/~grant/DiceJune.py>

```
from tkinter import *
import tkinter.messagebox as tkMessageBox
import sys,copy
from numpy import *

xx=[]
yy=[]

class bcanvas:
    def __init__(self,root,width,height):
        self.root=root
        self.width=width
        self.height=height
        try:
            self.canvas = Canvas(self.root, width=self.width, height=self.height, bg = 'white')
            self.canvas.pack()
            self.clear()
        except:
            print('An error has occurred in init!')

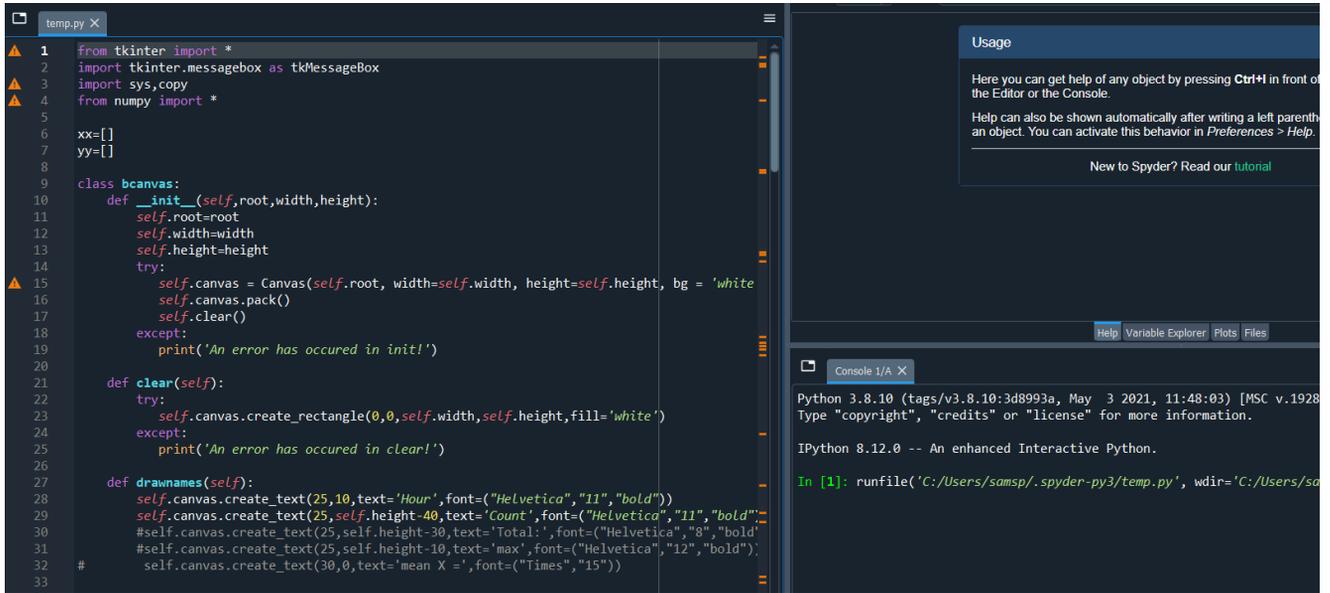
    def clear(self):
        try:
            self.canvas.create_rectangle(0,0,self.width,self.height,fill='white')
        except:
            print('An error has occurred in clear!')

    def drawnames(self):
        self.canvas.create_text(25,10,text='Hour',font=("Helvetica", "11", "bold"))
        self.canvas.create_text(25,self.height-40,text='Count',font=("Helvetica", "11", "bold"))
        #self.canvas.create_text(25,self.height-30,text='Total:',font=("Helvetica", "8", "bold"))
        #self.canvas.create_text(25,self.height-10,text='max',font=("Helvetica", "12", "bold"))
        self.canvas.create_text(30,0,text='mean X =',font=("Times", "15"))

    def drawv(self,v,x,xx,gen,r):
        ''' draw the blue circles and connecting lines. write info'''
        n=len(v)
        N.append(sum(v))
        print(gen,sum(v),sum(N))
        dy=0.5*(self.height-60-2*r)//n
        ylist = []
        for i in range(n):
            y = 2*r + (i+0.5)*(self.height-60-2*r)//n
            ylist.append(y)
```

Step 7: Press Ctrl + A and Ctrl + C to copy the code

Step 8: Paste the code into Spyder using Ctrl + V :



```
1 from tkinter import *
2 import tkinter.messagebox as tkMessageBox
3 import sys,copy
4 from numpy import *
5
6 xx=[]
7 yy=[]
8
9 class bcanvas:
10     def __init__(self,root,width,height):
11         self.root=root
12         self.width=width
13         self.height=height
14         try:
15             self.canvas = Canvas(self.root, width=self.width, height=self.height, bg = 'white'
16             self.canvas.pack()
17             self.clear()
18         except:
19             print('An error has occurred in init!')
20
21     def clear(self):
22         try:
23             self.canvas.create_rectangle(0,0,self.width,self.height,fill='white')
24         except:
25             print('An error has occurred in clear!')
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27     def drawnames(self):
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30         #self.canvas.create_text(25,self.height-30,text='Total:',font=("Helvetica","8","bold"))
31         self.canvas.create_text(25,self.height-10,text='max',font=("Helvetica","12","bold"))
32 #         self.canvas.create_text(30,0,text='mean X =',font=("Times","15"))
33
```

Usage

Here you can get help of any object by pressing **Ctrl+H** in front of the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis on an object. You can activate this behavior in *Preferences > Help*.

New to Spyder? Read our [tutorial](#)

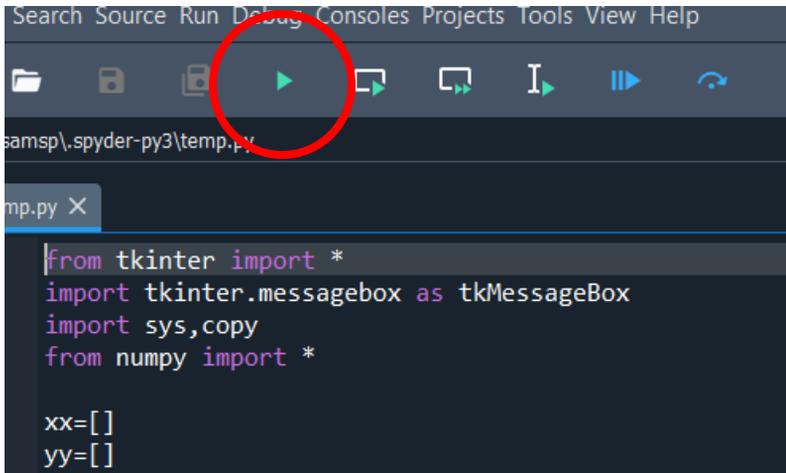
Console 1/A X

Python 3.8.10 (tags/v3.8.10:3d8993a, May 3 2021, 11:48:03) [MSC v.1928 Type "copyright", "credits" or "license" for more information.

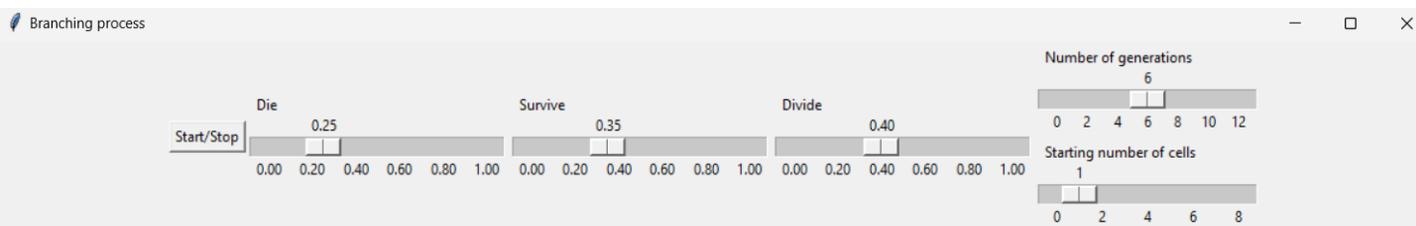
IPython 8.12.0 -- An enhanced Interactive Python.

In [1]: runfile('C:/Users/samsp/.spyder-py3/temp.py', wdir='C:/Users/sa

Step 9: Click Run Button:



Step 10: Code will open program “Branching Processes”:



That's it!