

Sprawozdanie Numer 1

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Temat : Zajęcia organizacyjne

Kod Programu :

```
import math

import numpy as np

import matplotlib.pyplot as plt

import array


a=4;b=5;c=4;


delta=(b*b)+((-4)*a*c)

if delta == 0:

    x1 = (-b) / (2 * a)

    print('x1 = ',x1,'\n\n')


if delta > 0:

    x1 = ((-b)-(math.sqrt(delta)))/(2*a)

    x2 = ((-b)+(math.sqrt(delta)))/(2*a)

    print('x1 = ',x1,'\n', 'x2 = ',x2,'\n\n')


if delta < 0:
```

```
    print('Brak miejsc zerowych')
```

```
xcords1 = [] ; acords = [] ; xcords = [] ; ycords = [] ; zcords = [] ; ucords = [] ; vcords1 = [] ;vcords2 = []  
;vcords3 = [] ; pcords = []
```

```
x=-10
```

```
while x < 10:
```

```
    xcords1.append(x)
```

```
    fx = (a * (x * x)) + (b * x) + c
```

```
    acords.append(fx)
```

```
    x=x+0.01
```

```
    x=round(x,2)
```

```
x=0
```

```
while x < 1:
```

```
    xcords.append(x)
```

```
    fx = (a * (x * x)) + (b * x) + c
```

```
    funkcja = (2 * (fx * fx)) + (12*math.cos(x))
```

```
    ycords.append(funkcja)
```

```
    funkcja2 = (math.sin(2*math.pi*7*x)*fx)-0.2*math.log((abs(funkcja)+math.pi),10)
```

```
    zcords.append(funkcja2)
```

```
    funkcja3 = math.sqrt(abs(funkcja*funkcja*funkcja2))-1.8*math.sin(0.4*x*funkcja2*funkcja)
```

```
    ucords.append(funkcja3)
```

```
if 0.22 > x >= 0:
```

```

funkcja41 = (1-(7*x))*math.sin((2*math.pi*x*10)/(x+0.04))

vcords1.append(funkcja41)

if 0.22 <= x < 0.7:

    funkcja42 = 0.63 * x * math.sin(125*x)

    vcords2.append(funkcja42)

if 1 >= x >= 0.7:

    funkcja43 = math.pow(x,-0.662)+0.77*math.sin(8*x)

    vcords3.append(funkcja43)


n=1

N=45

wynik=0

while n < N :

    funkcja5=(math.cos(12*x*(n*n))+math.cos(16*x*n))/(n*n)

    wynik=wynik+funkcja5

    n+=1

pcords.append(wynik)


x=x+(1/22050)

x=round(x,6)


fig, axs=plt.subplots(6)

fig.suptitle('Vertically stacked subplots')


axs[0].plot(xcords1,acords)

```

```
axs[1].plot(xcords,ycords)
axs[2].plot(xcords,zcords)
axs[3].plot(xcords,ucords)
#Wykres 4
len1=len(vcords1)
len2=len(vcords1)+len(vcords2)
len3=len2+len(vcords3)
axs[4].plot(xcords[:len1],vcords1)
axs[4].plot(xcords[len1:len2],vcords2)
axs[4].plot(xcords[len2:len3],vcords3)

axs[5].plot(xcords,pcords)

plt.show()
```

Zdjecia Wyników :

Figure 1

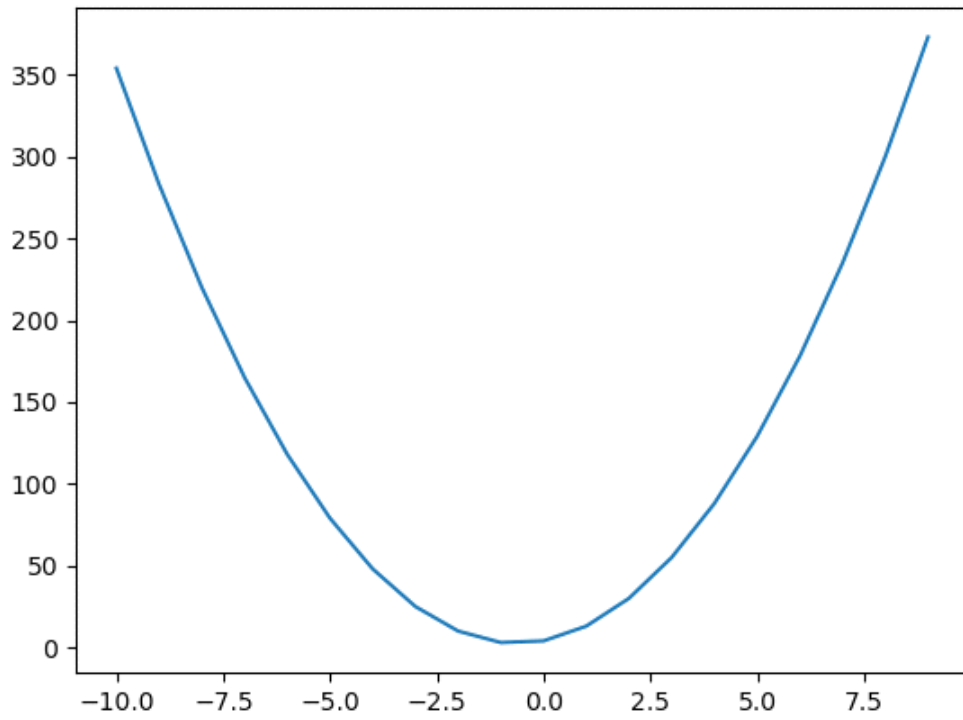




Figure 1

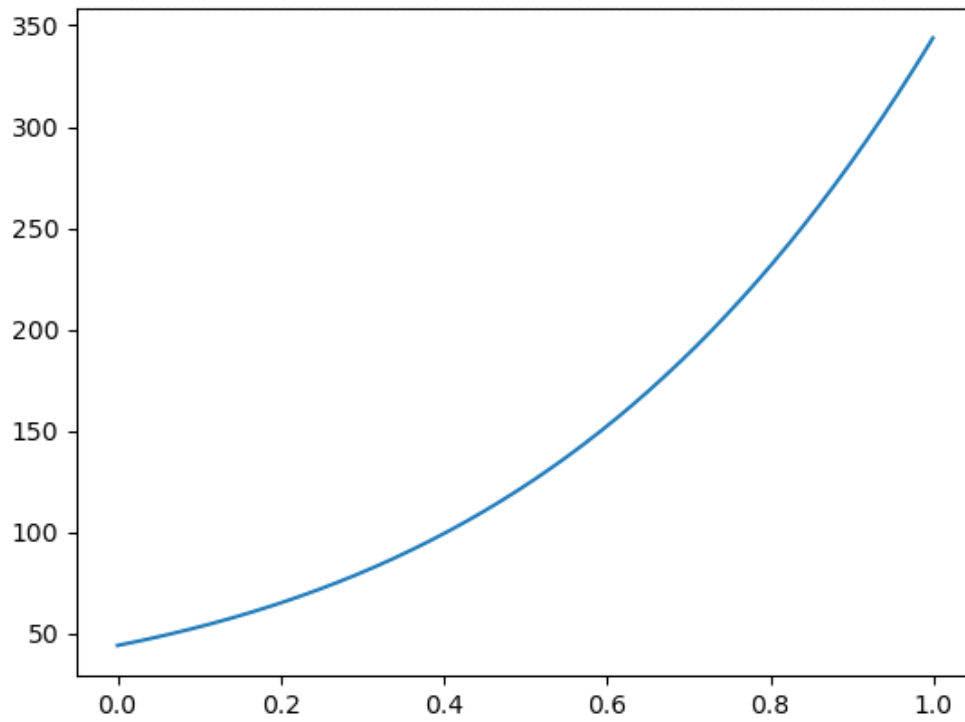


Figure 1

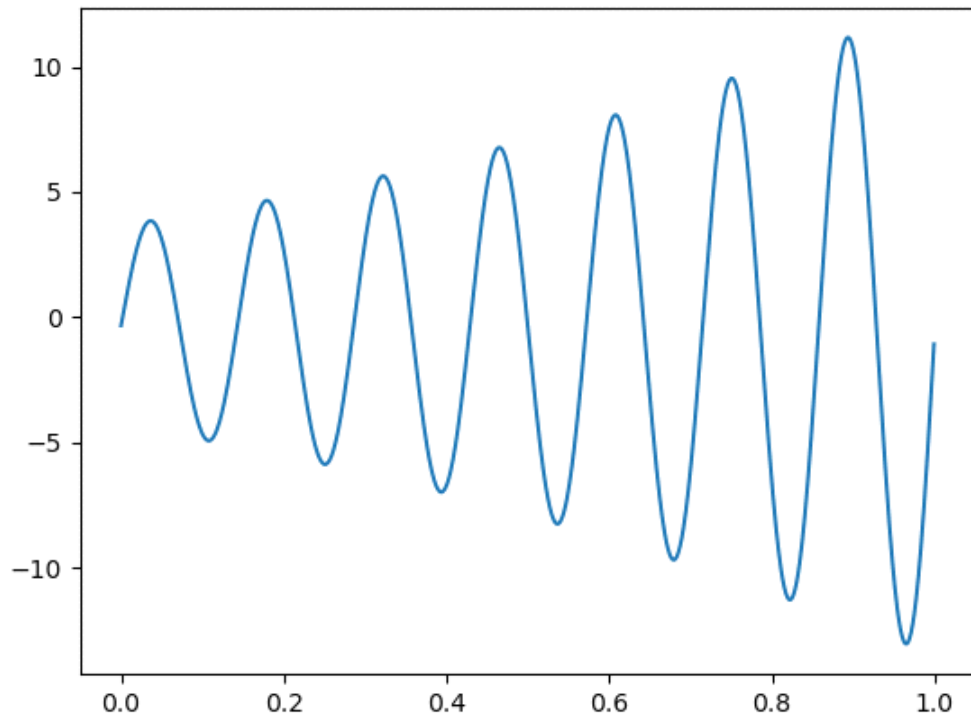


Figure 1

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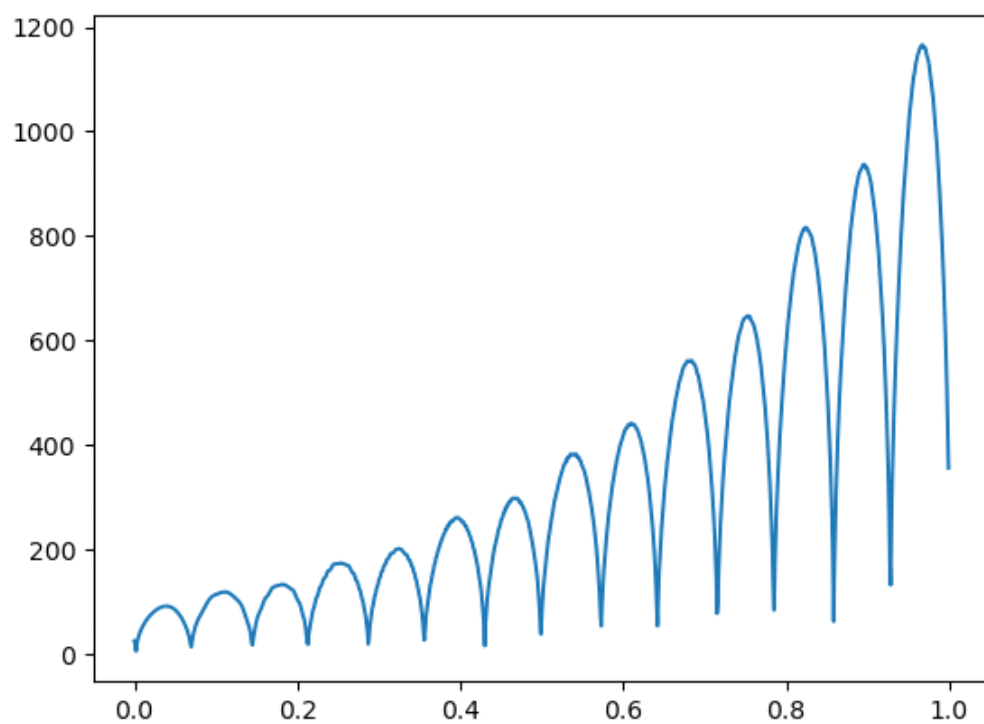


Figure 1

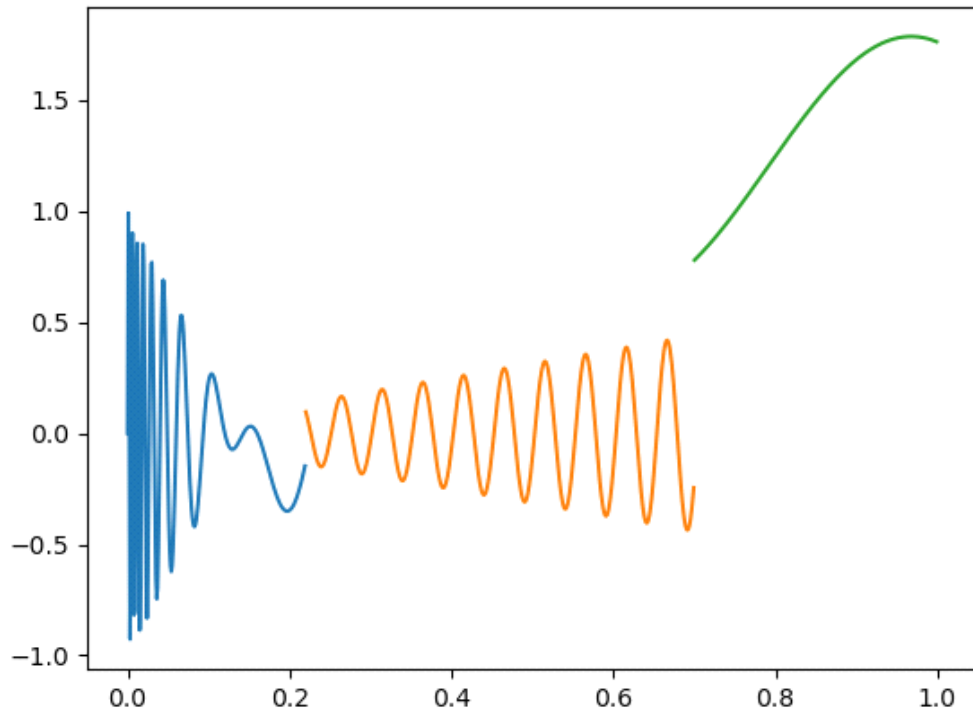
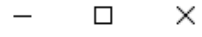


Figure 1

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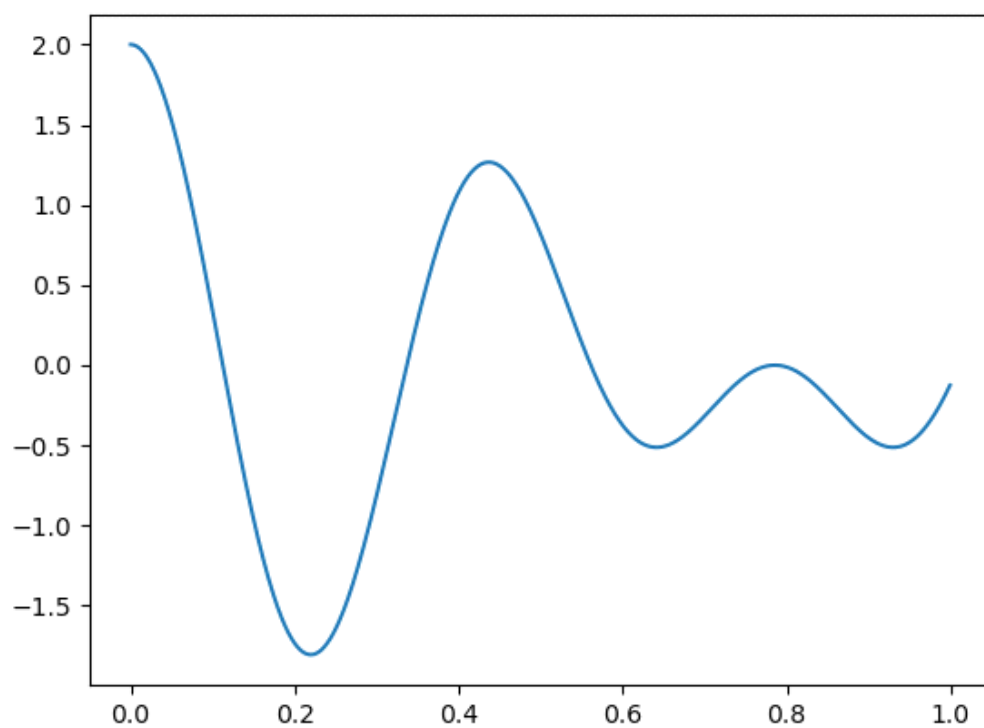


Figure 1

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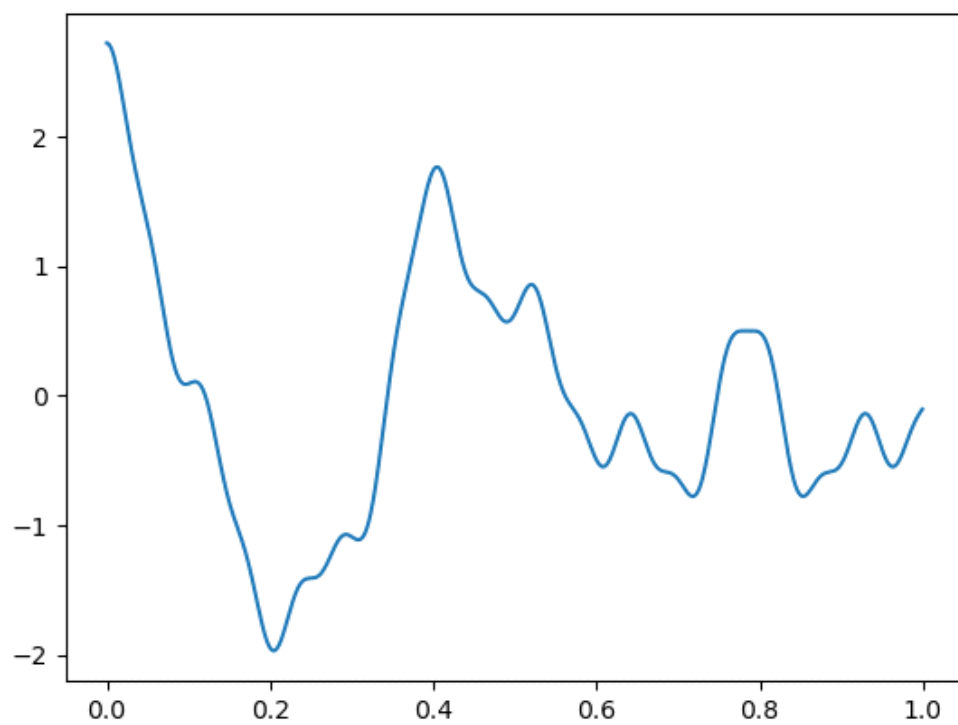


Figure 1

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