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## Zadanie 1

```
[b,a] = maxflat(4,1,0.3)
fvtool(b,a)
```

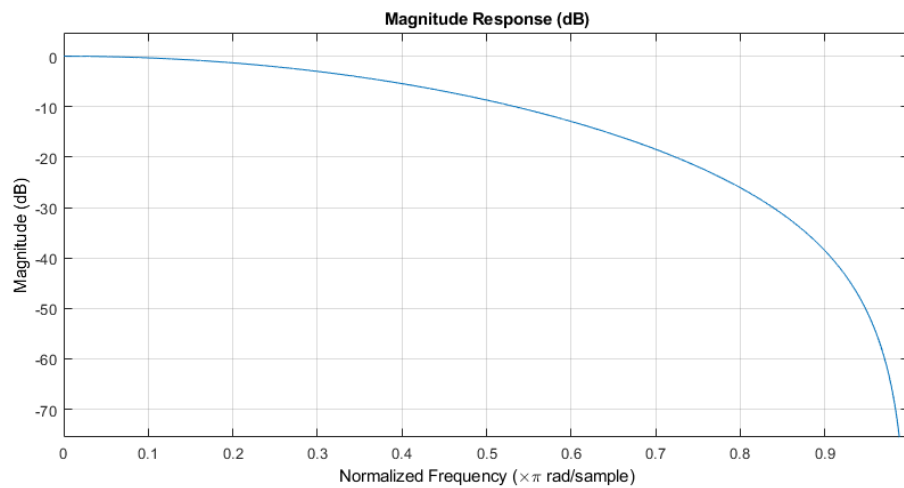
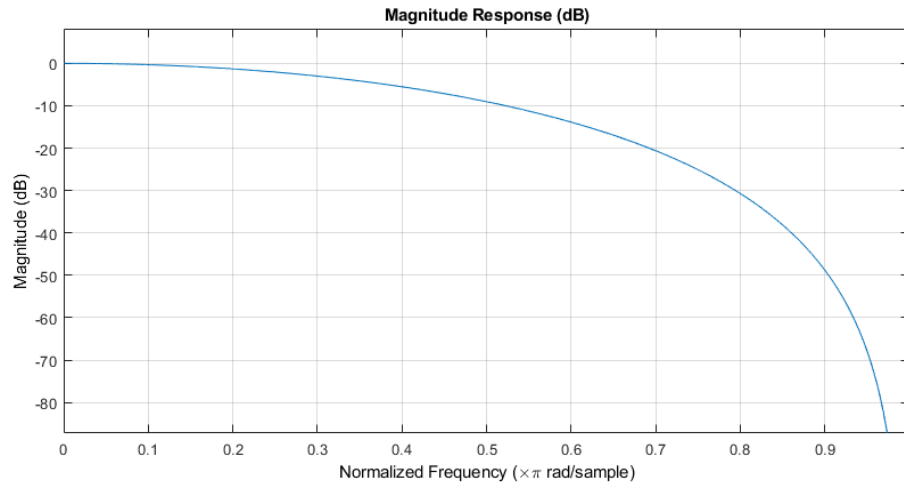
```
[b,a] = maxflat(4,'sym',0.3)
fvtool(b,a)
```

```
b =
    0.1187    0.4749    0.7123    0.4749    0.1187
```

```
a =
    1.0000    0.8995
```

```
b =
    0.0331    0.2500    0.4337    0.2500    0.0331
```

```
a =
    1
```



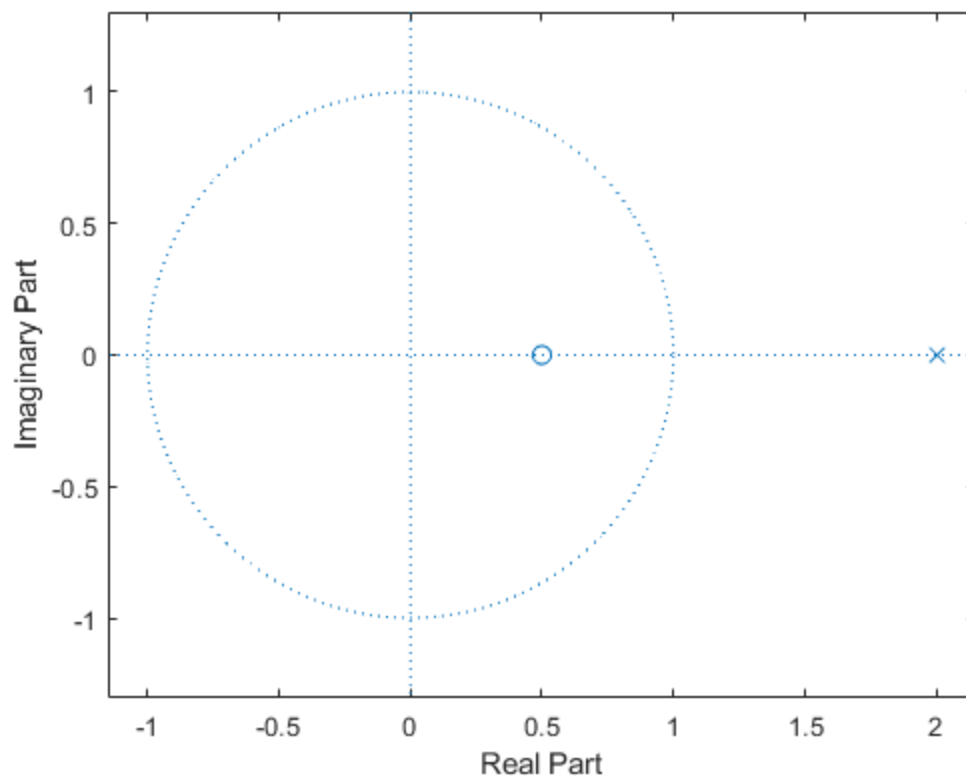
## Zadanie 2

```
b = [1 -0.5]; a = [1 -2];  
act_flag1 = isstable(b,a)  
zplane(b,a)
```

```
act_flag1 =
```

```
logical
```

```
0
```



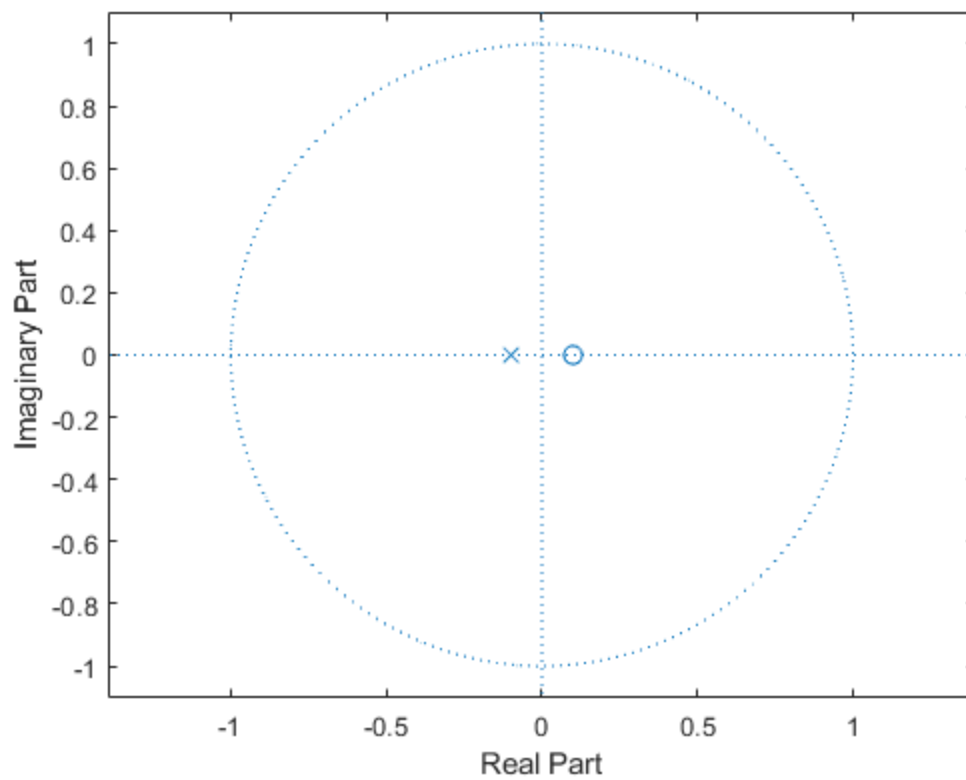
## Zadanie 3

```
b = [1 -0.1]; a = [-1 -0.1];  
act_flag1 = isstable(b,a)  
zplane(b,a)
```

```
act_flag1 =
```

```
logical
```

```
1
```



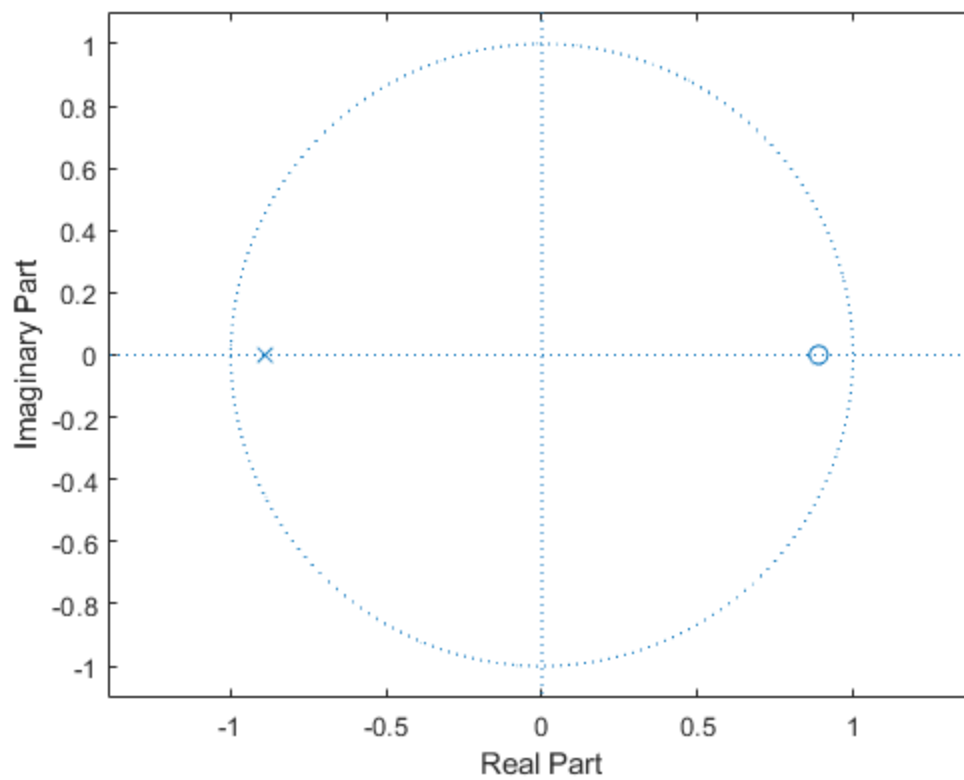
## Zadanie 4

```
b = [0.9 -0.8]; a = [-0.9 -0.8];  
act_flag1 = isstable(b,a)  
zplane(b,a)
```

```
act_flag1 =
```

```
logical
```

```
1
```



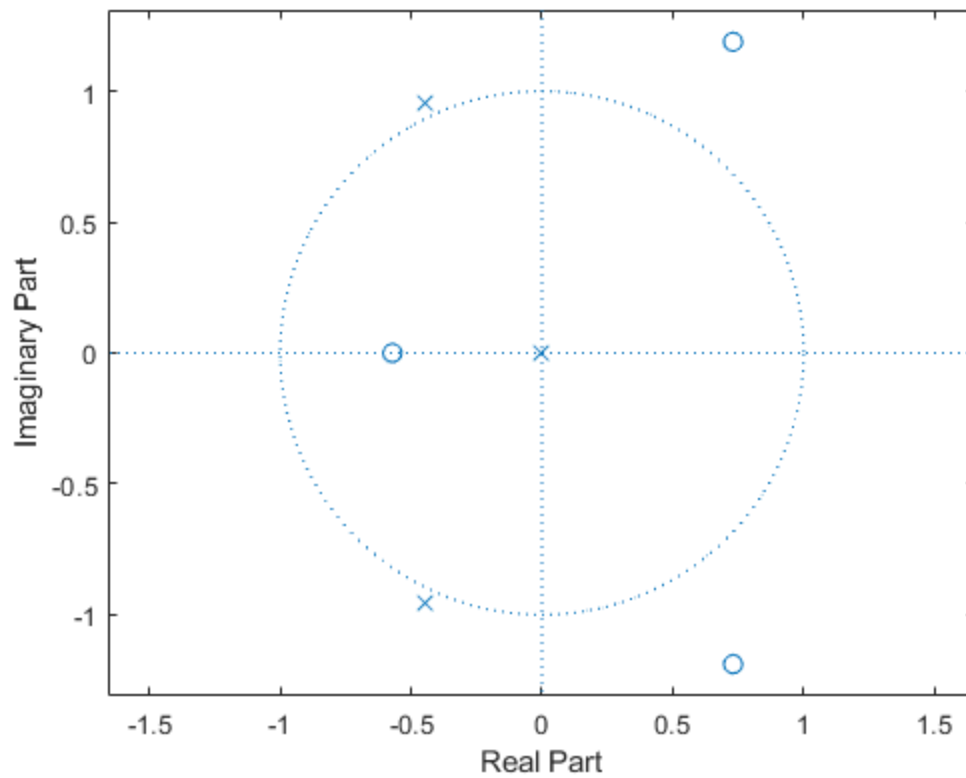
## Zadanie 5

```
b = [0.9 -0.8 1 1]; a = [-0.9 -0.8 -1];  
act_flag1 = isstable(b,a)  
zplane(b,a)
```

```
act_flag1 =
```

```
logical
```

```
0
```



## Zadanie 6

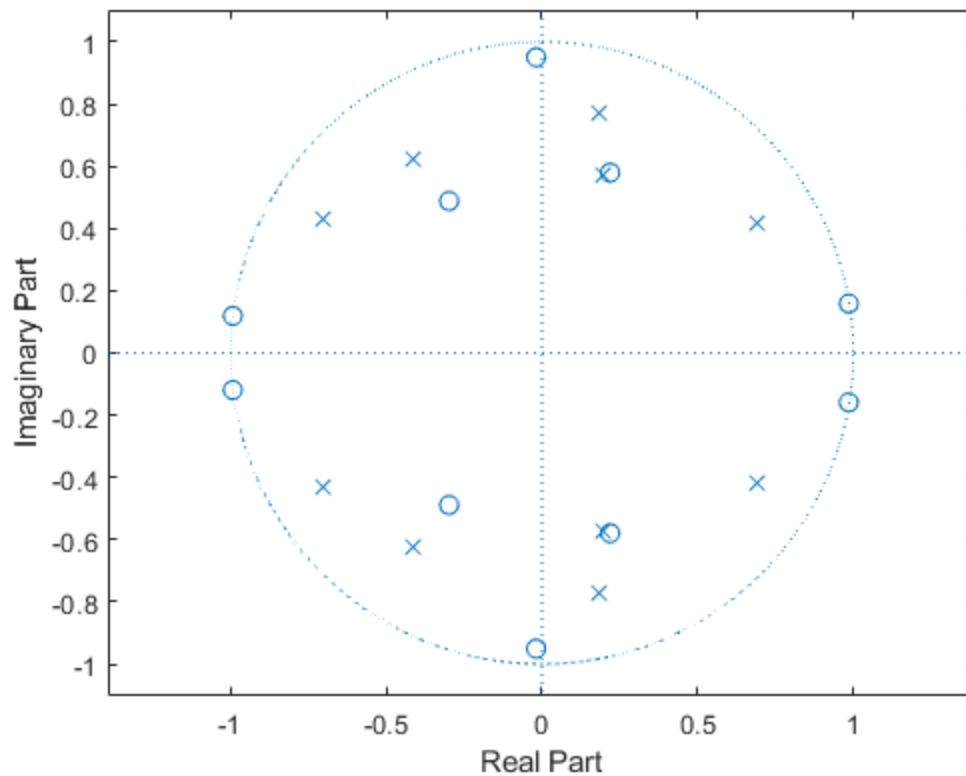
```
m = [0 0 1 1 1 0 1 1 0 0];  
f = [0 0.1 0.2 0.3 0.4 0.5 0.7 0.8 0.9 1];  
[b,a] = yulewalk(10,f,m);
```

```
act_flag1 = isstable(b,a)  
zplane(b,a)
```

```
act_flag1 =
```

```
logical
```

```
1
```



## Zadanie 7

```
[b,a] = maxflat(4,1,0.3);

% act_flag1 = isstable(b,a)
% zplane(b,a)

% wynik flag = 0

load chirp
t = (0:length(y)-1)/Fs;
% 1.6 sekundy
xfft=abs(fft(y));
xfft=xfft/13129;

x1=1:1:6564;

% bar(x1(1:6564), xfft(1:6564));
% axis([0,6564, 0,0.01]) ;

% plot(t,y);
% fvtool(b,a)

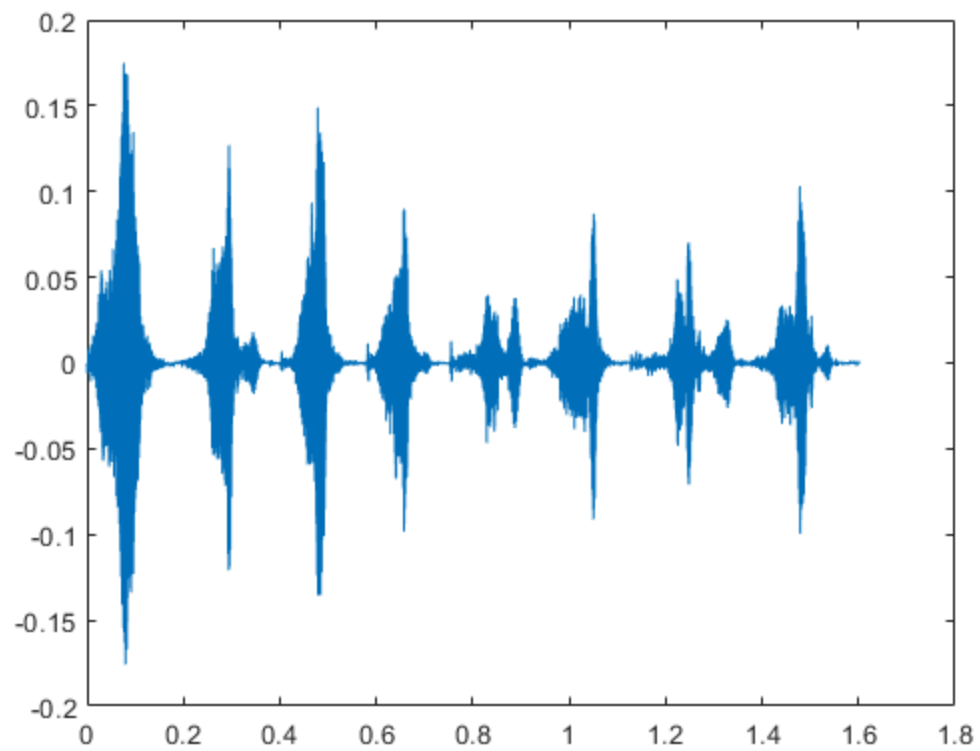
outsignal = filter(b,a,y);
```

---

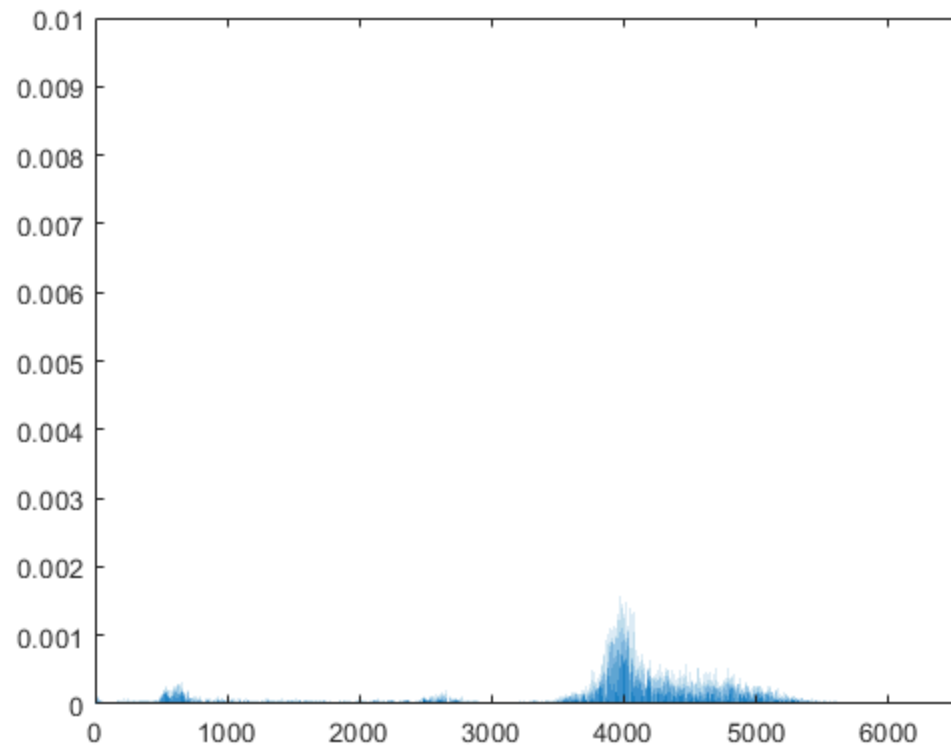
```
figure()
plot(t, outsignal);

xfft=abs(fft(outsignal));
xfft=xfft/13129;
x1=1:1:6564;

figure()
bar(x1(1:6564), xfft(1:6564));
axis([0,6564, 0,0.01]) ;
```







## Zadanie 8

```
m = [0 0 0 0 0 1 1 1 1 1];
f = [0 0.1 0.2 0.3 0.4 0.5 0.7 0.8 0.9 1];
[b,a] = yulewalk(10,f,m);

% act_flag1 = isstable(b,a)
% zplane(b,a)

% wynik flag = 0

load chirp
t = (0:length(y)-1)/Fs;
% 1.6 sekundy
xfft=abs(fft(y));
xfft=xfft/13129;

x1=1:1:6564;

% bar(x1(1:6564), xfft(1:6564));
% axis([0,6564, 0,0.01]) ;

% plot(t,y);
% fvtool(b,a)
```

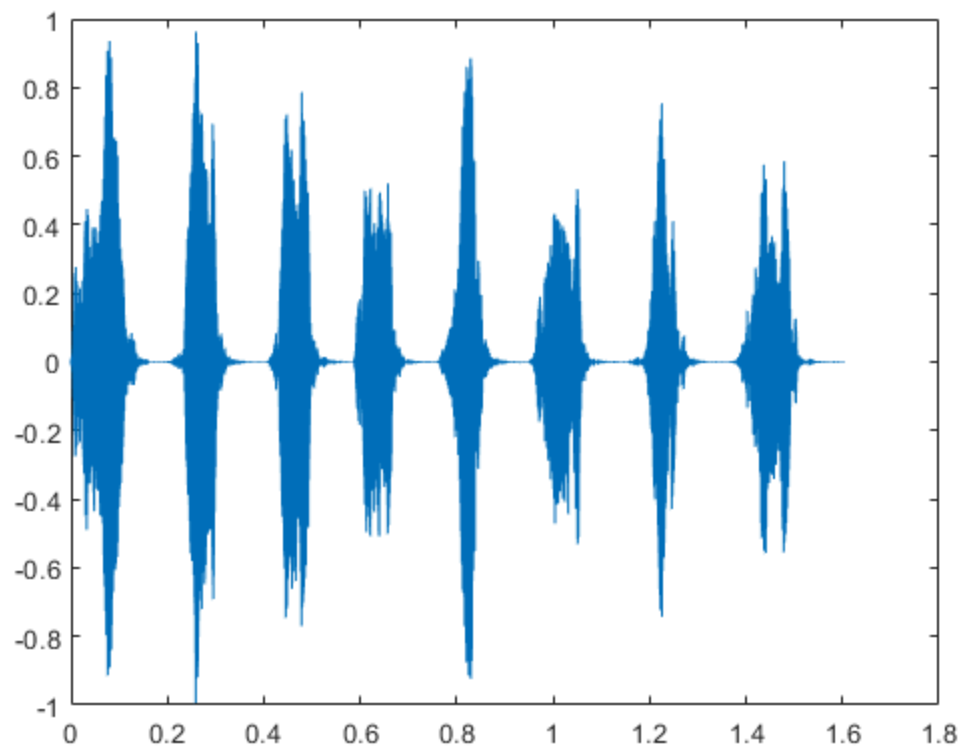
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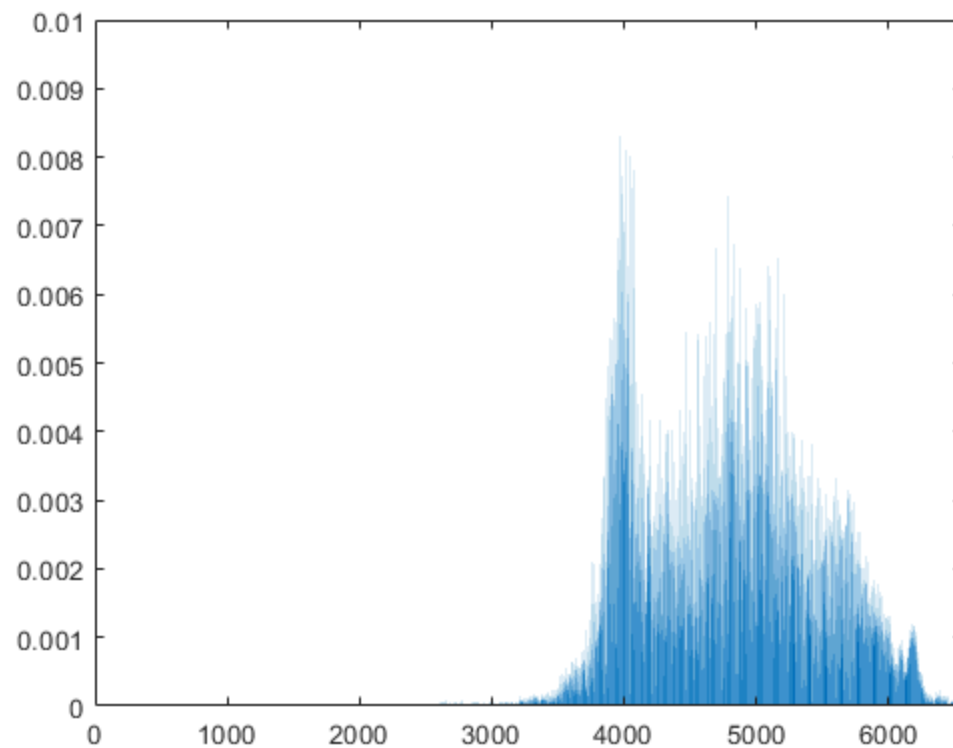
```
outsignal = filter(b,a,y);

figure()
plot(t, outsignal);

xfft=abs(fft(outsignal));
xfft=xfft/13129;
x1=1:1:6564;

figure()
bar(x1(1:6564), xfft(1:6564));
axis([0,6564, 0,0.01]) ;
```





## zad9

```
b = [0.9 -0.8 1 1]; a = [-0.9 -0.8 -1];  
% niestabilny  
  
% act_flag1 = isstable(b,a)  
% zplane(b,a)  
  
% wynik flag = 0  
  
load chirp  
t = (0:length(y)-1)/Fs;  
% 1.6 sekundy  
xfft=abs(fft(y));  
xfft=xfft/13129;  
  
x1=1:1:6564;  
  
% bar(x1(1:6564), xfft(1:6564));  
% axis([0,6564, 0,0.01]) ;  
  
% plot(t,y);  
% fvtool(b,a)
```

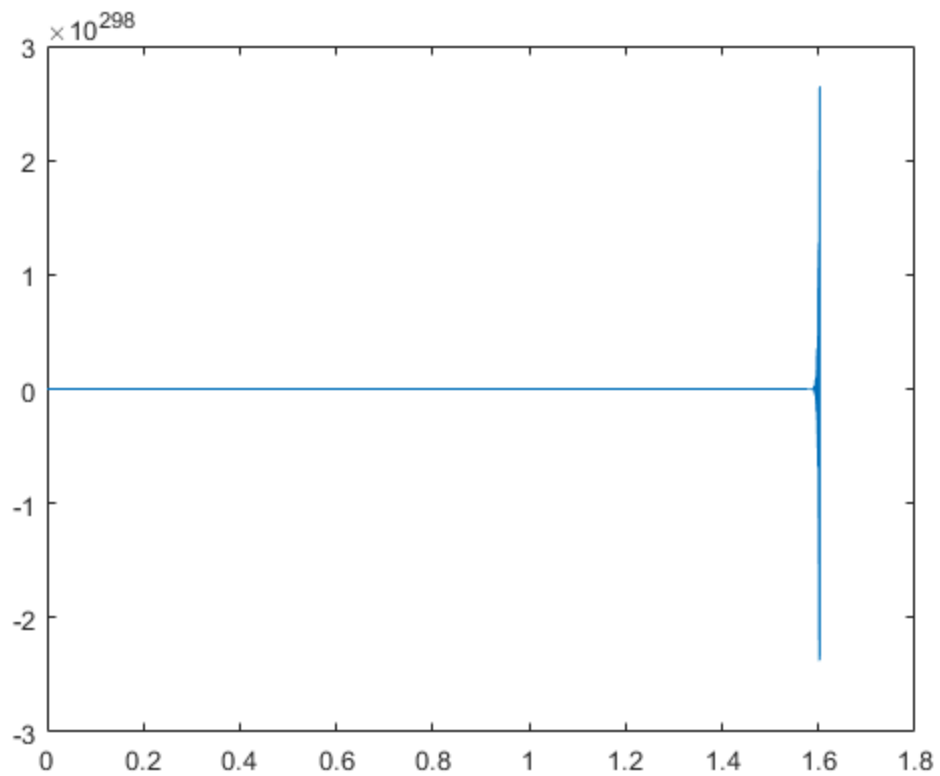
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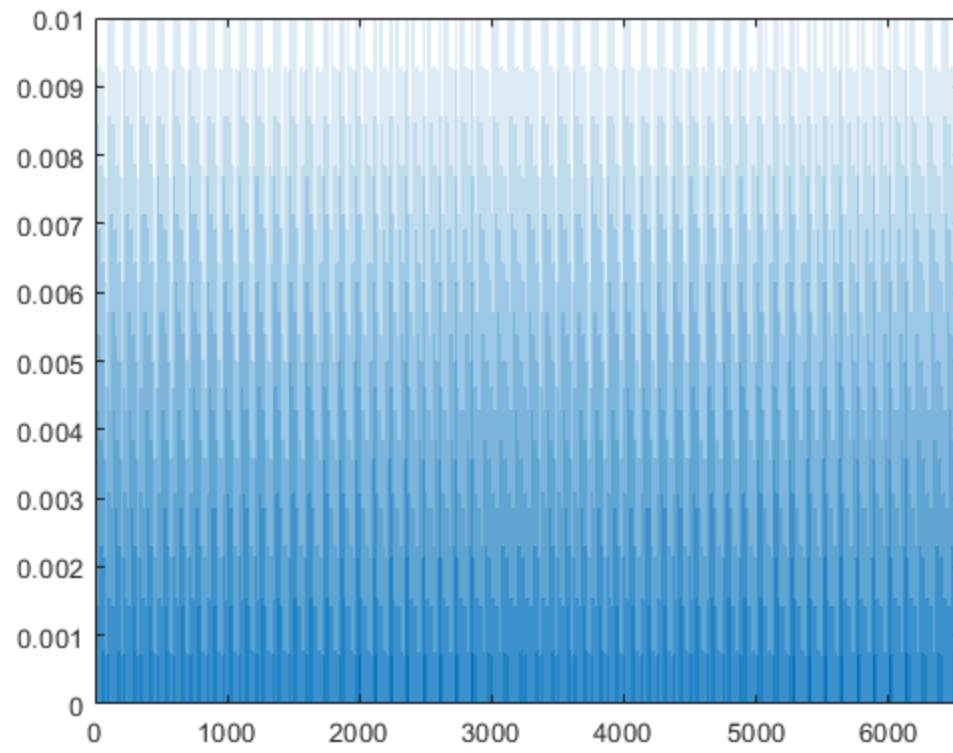
```
outsignal = filter(b,a,y);

figure()
plot(t, outsignal);

xfft=abs(fft(outsignal));
xfft=xfft/13129;
x1=1:1:6564;

figure()
bar(x1(1:6564), xfft(1:6564));
axis([0,6564, 0,0.01]) ;
```





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