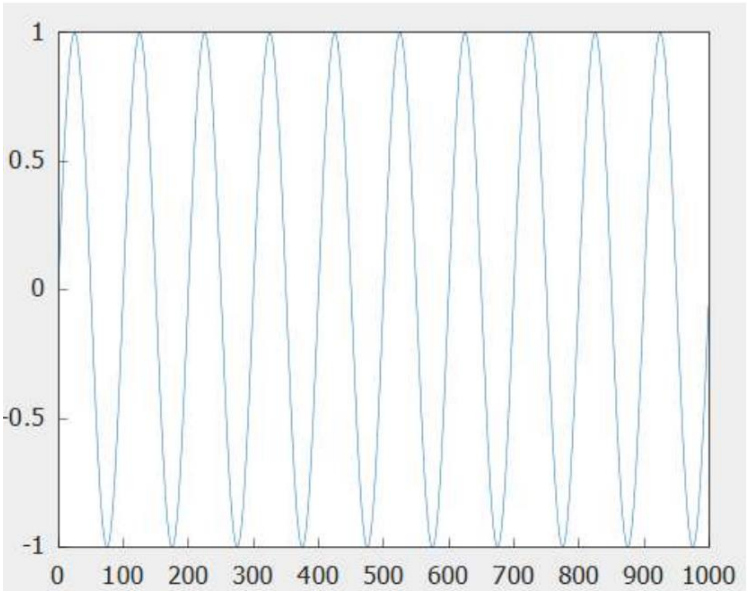
Techniki Programowania, Projekt 3

Michał Stępski 204162
Wiktor Woźniak 203819

1. Generacja i wizualizacja sygnałów

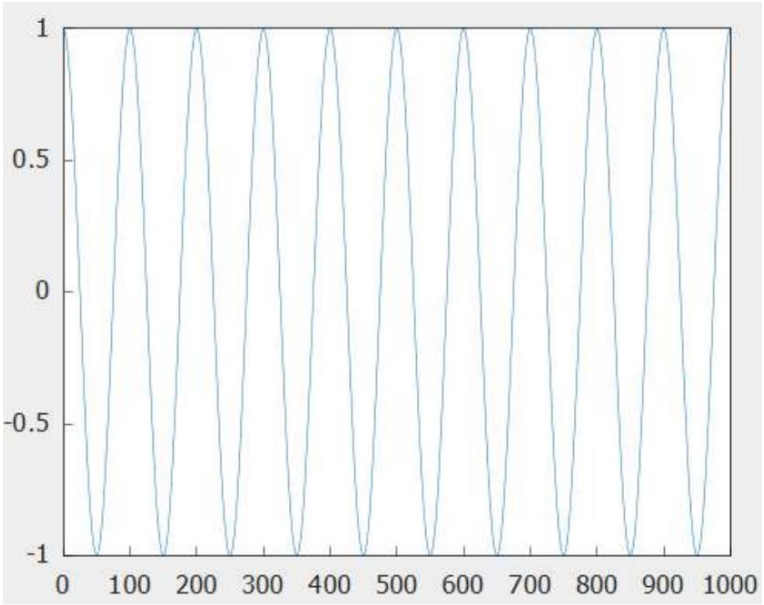
-sinusoidalny

```
signal0=proj3.sinGen(freq=10, fSmpl=1000,dur=1.0)
proj3.showSig(signal0)
```



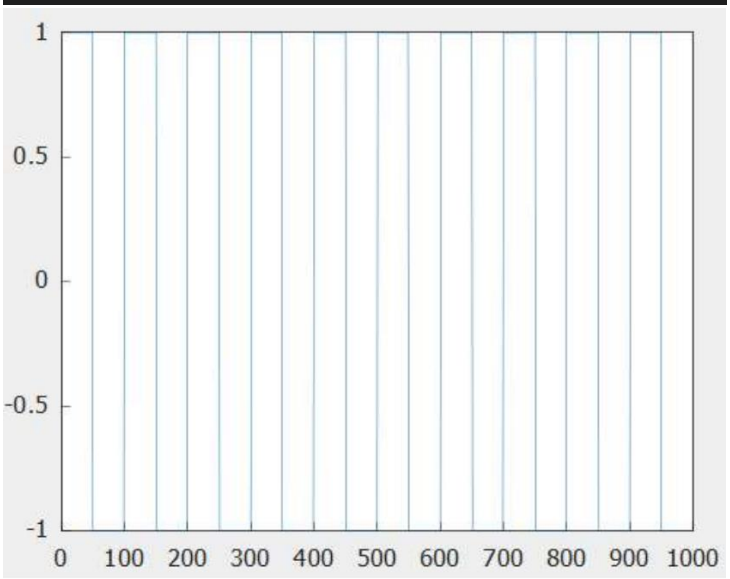
-cosinusoidalny

```
signal2=proj3.cosGen(freq=10, fSmpl=1000,dur=1.0)
proj3.showSig(signal2)
```



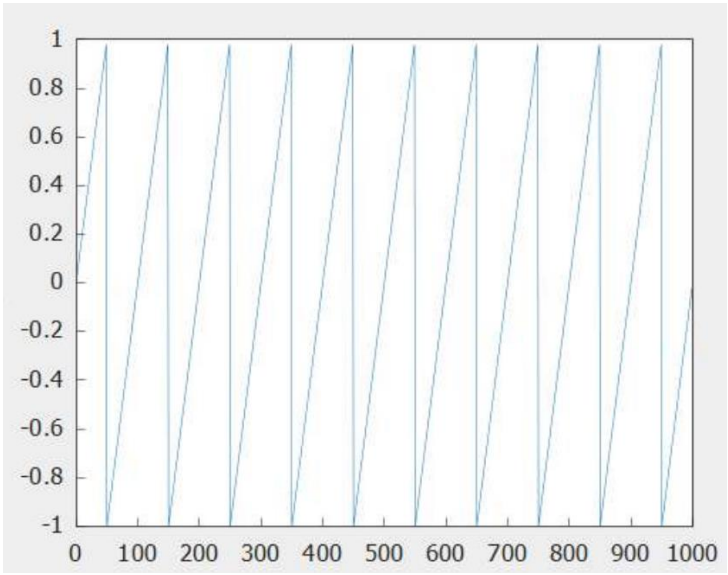
-prostokątny

```
signal3=proj3.recGen(freq=10, fSmpl=1000,dur=1.0)
proj3.showSig(signal3)
```



-piłokształtny

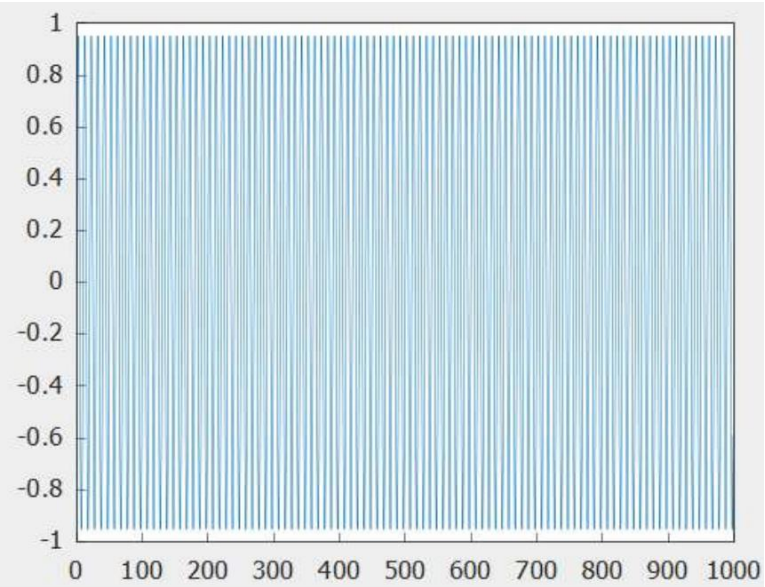
```
signal4=proj3.sawGen(freq=10, fSmpl=1000,dur=1.0)
proj3.showSig(signal4)
```



2. DFT i odwrotna

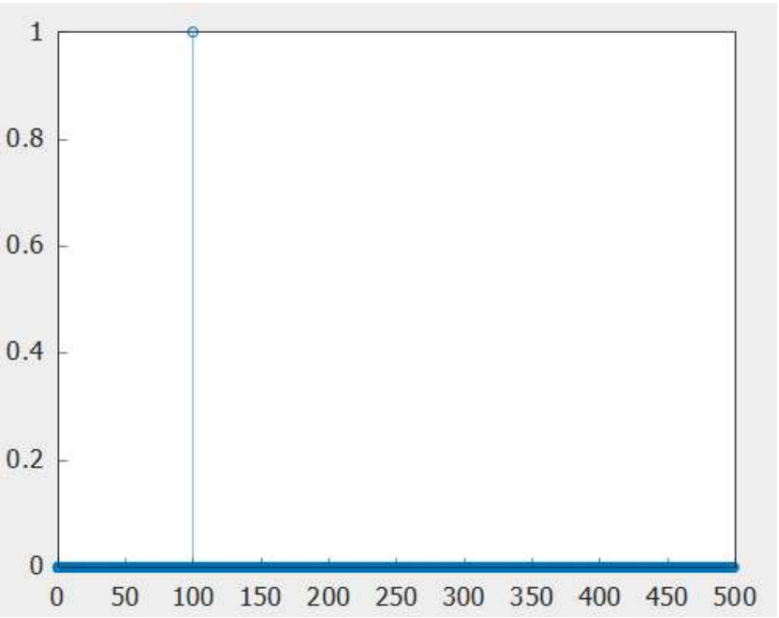
-sygnał do transformowania

```
signal1=proj3.sinGen(freq=100, fSmpl=1000,dur=1.0)
proj3.showSig(signal1)
```



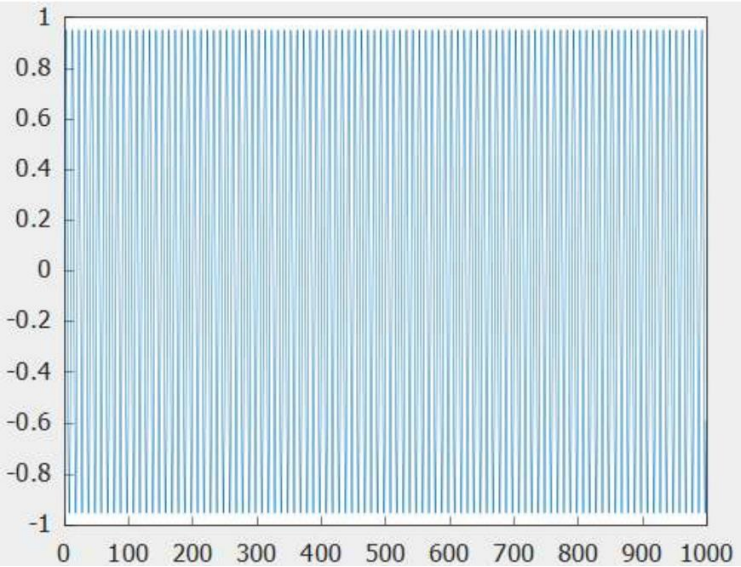
-DFT

```
transform = proj3.DFT(signal1)
proj3.showTransf(dft=transform, fSmpl=1000)
```



-transformata odwrotna

```
untransform=proj3.rDFT(transform)
proj3.showSig(untransform)
```



3. Filtracja 1D

-filtr i sygnał

```
signal = [5,6,8]
filter=[-1,0,1]
result = proj3.DF(signal, filter)
print(result)
```

-wynik

```
[-5.0, -6.0, -3.0, 6.0, 8.0]
```