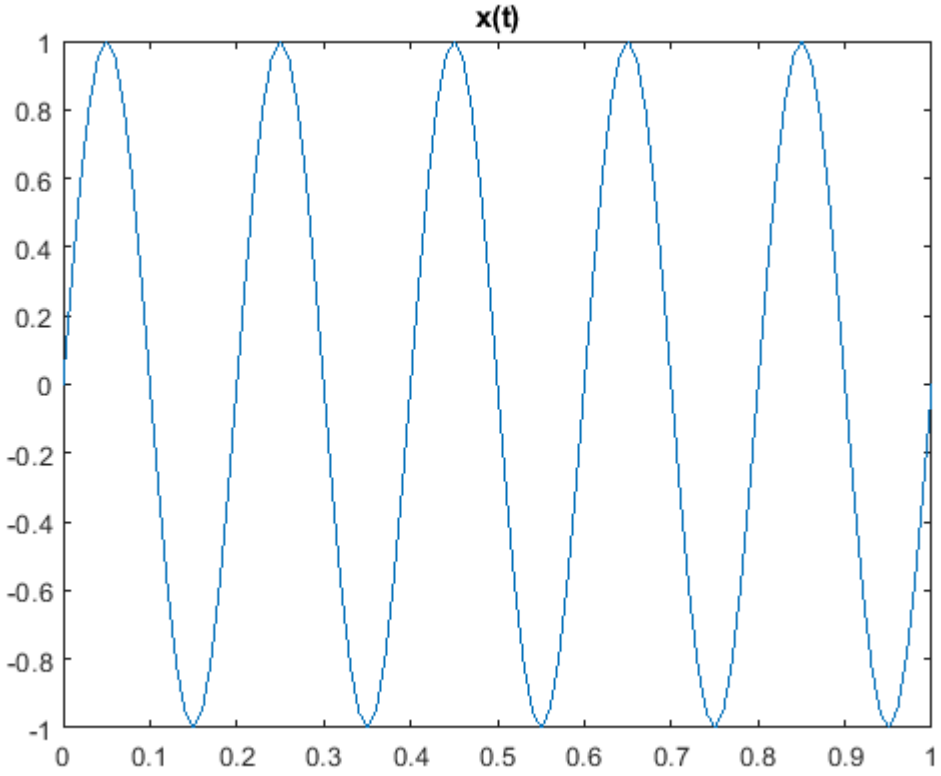
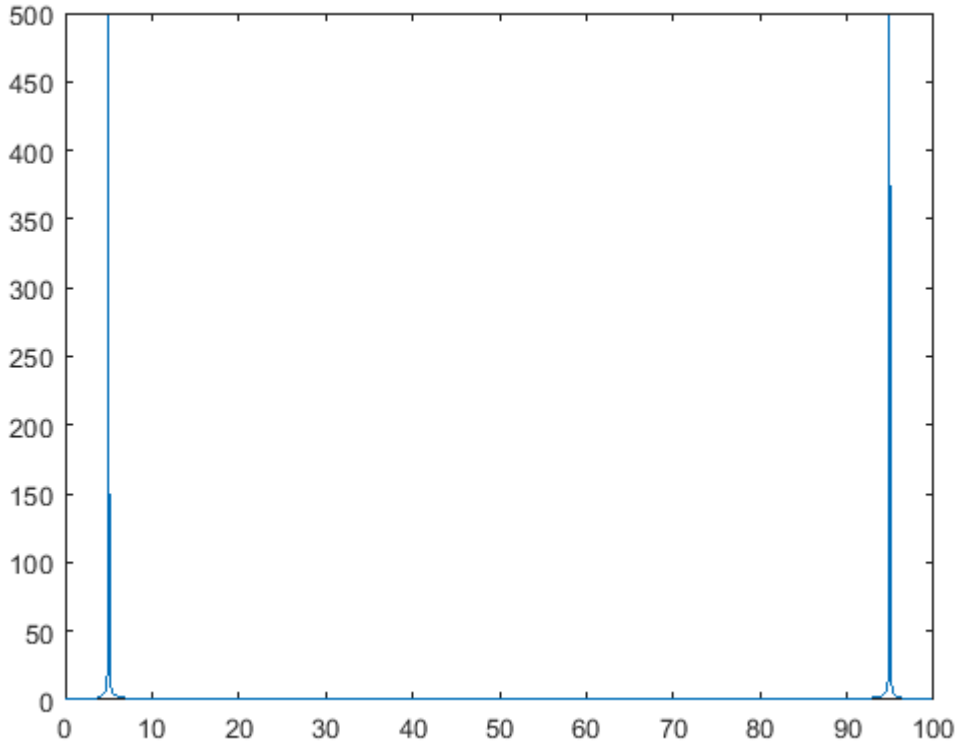
```
t = linspace(0,10,1000);
frequency = 5;
x = sin(2*pi*frequency*t);


figure()
plot(t, x)
title("x(t)")
xlim([0,1])
```




```
dftCalculator = DFTCalculator();
[freqs, spectrum] = dftCalculator.DFT(t, x);

figure()
plot(freqs, abs(spectrum))
```

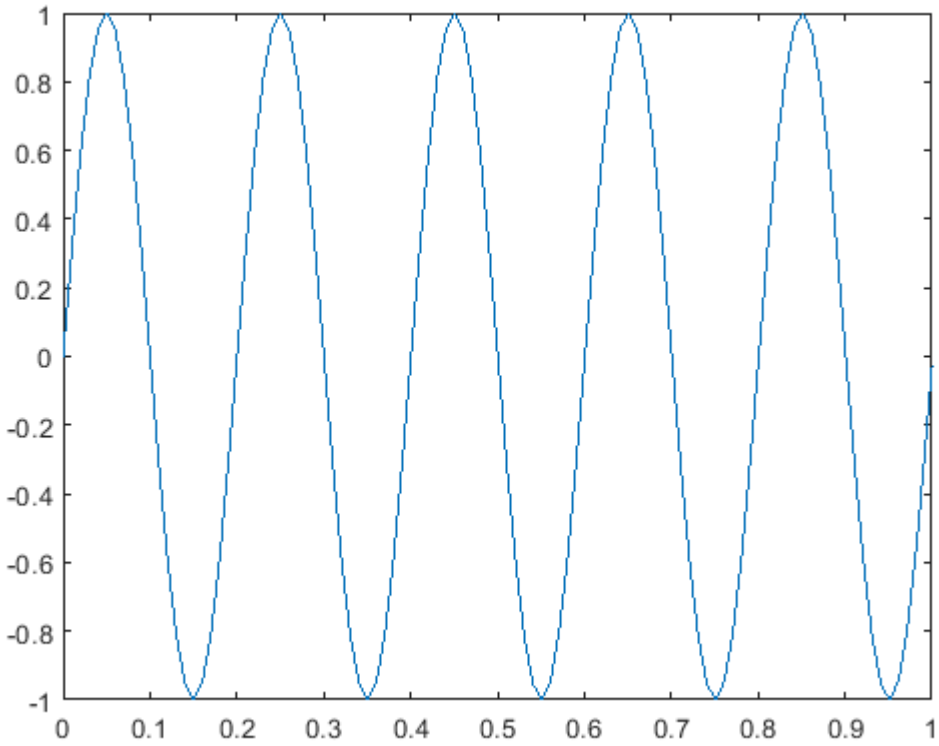



```
[tInverse, sInverse] = dftCalculator.IDFT(freqs, spectrum);

figure()
plot(tInverse, sInverse)
```

```
Warning: Imaginary parts of complex X and/or Y arguments ignored.
```

```
xlim([0,1])
```


1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1