Lab 2 (Basic Matlab introduction)

Commands to learn:

Basic mathematical operations with constants

```
>> A=1;
>> B=2;
>> C=A+B;
>> D=A*B;
>> E=B^3;
>> F=sqrt(B);
>> G=B^(B+A);
```

Basic mathematical operations involving vectors or matrices

```
>> x=linspace(0,2*pi,101);
>> y1=sin(x);
>> plot(x,y1)
>> y2=x/4;
>> plot(x,y2);
>> y3=y1+y2;
>> plot(x,y3);
>> y4=y1.*y2;
>> plot(x,y4);
>> y5=y1.^2;
>> plot(x,y5);

>> Z1=[1 2 3; 4 5 6]
>> Z2=Z1*2
>> Z4=Z1+1
>> Z5=Z1.^2
>> Z6=Z1+Z1
>> Z8=Z1.*Z1
>> Z9=Z1.^Z1
```

Problem 1
Calculate the dimensionless temperature field of a 1D slab with BC of the first kind for two different time instants!

```
x=linspace(0,1,41);
Fo=0.5;
Bi=0.5;
nu=0.6533;
pszi=1.0701;
T=pszi*exp(-nu^2*Fo)*cos(nu*x);
plot(x,T);
```

```
x=linspace(0,1,41);
Fo=0.2;
Bi=0.5;
nu=0.6533;
pszi=1.0701;
T=pszi*exp(-nu^2*Fo)*cos(nu*x);
plot(x,T);
```