

Lab 4 (Basic Matlab introduction)

Plotting in 2D

after running Problem 2 from Lab 3

```
>> save lab4 t x T;
```

Example 5

```
load lab4;

x1=41;

h1=figure(1);
plot(t,T(:,x1));
xlabel('Fo, -');
ylabel('T, -');
title(['Temperature vs. time at x= ' num2str(x(1,x1))]);
grid on;
set(h1, 'position', [200 400 700 500]);
```

Example 6

```
load lab4;

h1=figure(1);
plot(t,T(:,1), 'rd--', t, T(:,end), 'bs:');
xlabel('Fo, -');
ylabel('T, -');
title('Temperature vs. time');
legend('x=0', 'x=1')
grid on;
set(h1, 'position', [200 400 700 500]);
```

Example 7

```
load lab4;

h1=figure(1);
set(h1,'position',[200 400 1200 500]);

subplot(1,2,1);
plot(t,T(:,1),'rd--',t,T(:,end),'bs:');
xlabel('Fo, -');
ylabel('T, -');
title('Temperature vs. time');
legend('x=0','x=1')
grid on;

subplot(1,2,2);
plot(x,T(1,:), 'rd--',x,T(end,:), 'bs:');
xlabel('x, -');
ylabel('T, -');
title('Temperature vs. space');
legend(['t=' num2str(t(1,1))], ['t=' num2str(t(end,1))]);
grid on;
```

Example 8

```
load lab4;

h1=figure(1);
set(h1,'position',[200 400 700 500]);

h2=line('XData',x,'YData',T(1,:));
axis([0 1 0 1]);
xlabel('x, -');
ylabel('T, -');
grid on;
for i=2:size(T,1),
    set(h2,'YData',T(i,:));
    title(['Temperature vs. space at Fo= ' num2str(t(i,1)) ' -']);
    pause(0.2);
end
```