

Домашна работа 1

Томче Делев

1 Задача

```
x = 0:.1:.5;
m = [x; 4 * sin(3 * x); 3 * sin(4 * x)];

m = m';
disp('1. Zadaca');
disp(m);
```

2 Задача

```
x = 0:.05:6;
y = sin(x * pi);
yy = (y <= 0) .* y;
clf;
plot(x, y, ':', x, yy, '-');
grid on;
```

3 Задача

```
x = -2 : .1 : 2;
y = -2 : .1 : 2;

[x, y] = meshgrid(x, y);
f = x .* exp(-((x - y).^2).^2 + y.^2));
surf(x, y, f);
xlabel('x');
ylabel('y');
zlabel('f(x, y)');
```

4 Задача

```
function [m] = weightedMean(x, w)

% Computes weighted arithmetic mean of vector X, and weight vector W
```

```

if length(x) ~= length(w)
    disp('Vector X and vector W have different sizes.');
```

$$\text{return}$$

```

end

if length(find(w < 0)) > 0
    disp('Weight vector contains negative values.');
```

$$\text{return}$$

```

end

s = sum(w);
if s == 0
    disp('Sum of weights is 0.');
```

$$\text{return}$$

```

end

m = sum(w .* x) / s;
```