

Numaranıza göre x[i] değerlerini belirlemeniz gerekmektedir. Örneğin, 130202015 olan öğrenci için

```
% x = [ 1 3 0 2 0 2 0 1 5]
```

- n ve D değeri x'in eleman sayısına eşittir.
- x[1], x'in 1. elemanı olarak kabul edilmelidir.
- zorunlu olmadıkça döngü kullanılmamalıdır.

Denklem 1:

$$-200e^{-0.02} \sqrt{x_1^2 + x_2^2}$$

```
x = [1 7 0 2 0 1 1 2 7];  
expression = sym(-200*exp(-0.02)*sqrt(x(1)^2 + x(2)^2));  
vpa(expression)
```

```
ans = -1386.2102576105280605
```

Denklem 2:

$$-20e^{-0.02} \sqrt{D^{-1} \sum_{i=1}^D x_i^2} - e^{D-1} \sum_{i=1}^D \cos(2\pi x_i) + 20 + e$$

```
x = [1 7 0 2 0 1 1 2 7];  
  
squared = sum(x.^2);  
cosined = sum(cos(2*pi*x)); % skaler olduğu için nokta kullanmıyoruz
```

```
cosined = 9
```

```
D = size(x,2);
```

```
D = 9
```

```
result_1 = -20*exp(-0.02)*sqrt(D.^(-1)*squared) - exp(D-1)*cosined+20+exp(1);  
vpa(result_1)
```

```
ans = -26874.127432140096062
```

Denklem 3:

$$\sum_{i=1}^D |x_i \sin(x_i) + 0.1x_i|$$

```
result_2 = sum(abs(x.*sin(x) + x.*.1));  
vpa(result_2)
```

ans = 17.459415043789462629

Denklem 4:

$$\prod_{i=1}^D \sqrt{x_i} \sin x_i$$

```
result_3 = prod(sqrt(x).*sin(x))
```

```
result_3 = 0
```

Denklem 5:

$$\sum_{i=1}^D \left(\frac{x_i^2}{4000} \right) - \prod_{i=1}^D \left(\cos\left(\frac{x_i}{\sqrt{i}}\right) + 1 \right)$$

```
i_matrix = 1:D;  
result_4 = sum((x.^2)/4000) - prod(x./sqrt(i_matrix)+1);  
vpa(result_4);
```

Denklem 6:

$$\sum_{i=1}^D \left(e^{-0.2} \sqrt{x_i^2 + x_{i+1}^2} + 3(\cos(2x_i) + \sin(2x_{i+1})) \right)$$

```
even = x(2:2:end);  
even(numel(x)) = 0;  
% 1 7 0 2 0 1 1 2 7  
  
result_5 = sum(exp(-0.2)*sqrt(x.^2 + even.^2) + 3*(cos(x.*2) + sin(even.*2)));  
vpa(result_5)
```

ans = 24.202379264475755605

Denklem 7:

$$\sum_{i=1}^D i x_i^2 + \sum_{i=1}^D 20 i \sin^2 A + \sum_{i=1}^D i \log_{10}(1 + i B^2)$$

$$A = (x_{i-1} \sin x_i + \sin x_{i+1})$$

$$B = (x_{i-1}^2 - 2x_i + 3x_{i+1} - \cos x_i + 1)$$

```
even = x(2:2:end);  
even(numel(x)) = 0;  
  
odd = x(1:2:end);  
odd(numel(x)) = 0;
```

```
A = (odd.*sin(x) + sin(even));  
B = (odd.^2 - x.*2 + even.*3 - cos(x) + 1);  
  
result_6 = sum(i_matrix.*x.^2) + sum(sin(A).^2.*i_matrix*20) + sum(i_matrix.*log10(1 + i_matrix))  
  
result_6 = 852.2496
```

```
vpa(result_6)
```

```
ans = 852.249607444533126
```