

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.*x);  
cosined = sum(cos(2*pi*x));  
D = size(x,2);  
  
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:

$$\sum_{i=1}^D |x_i \sin(x_i) + 0.1x_1|$$

```
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(x.*sin(x))
```

```
result_3 = 0
```

Denklem 5:

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

```
summation_1 = x.^2;
summation_1 = sum(summation_1*(1/4000));
product_1 = sum(cos(x.*(1/sqrt(1i))))+1;
result_4 = summation_1 - product_1;
vpa(result_4)
```

```
ans = -47.715772748755703958 + 131.85661386777888993 i
```

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;

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_5 = sum(x.^2.*1i) + sum(20i*sin(A).^2) + sum(1i*log10(1+B.^2.*1i));  
vpa(result_5)
```

```
ans = -5.6476039425661070936 + 185.22069427581297418 i
```