

HW09 RAPOR

Bu ödevde bir tane Polynomial Class'ı ve bu Polynomial Class'ını test eden PolynomialTest Class'ı oluşturdum. Javadoc çıktısı aşağıdaki gibidir.

All Classes

Polynomial

PolynomialTest

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Summary

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Polynomial

Class Polynomial

java.lang.Object

Polynomial

Polynomial

public class Polynomial

extends java.lang.Object

Author:

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Field Summary

Fields

Modifier and Type

Field and Description

private double[]

coefficients

coefficients data field

Constructor Summary

Constructors

Constructor and Description

Polynomial()

no parameter constructor

Polynomial(double[] arr)

Method Summary

All Methods

Instance Methods

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Modifier and Type

Method and Description

Polynomial

add(Polynomial other)

boolean

equals(java.lang.Object obj)

double

evalWithX(double x)

double

getCoef(int index)

double[]

getCoefficients()

Polynomial

mult(Polynomial other)

void

setCoef(int index, double value)

All Classes	Method Summary																				
Polynomial PolynomialTest	All Methods Instance Methods Concrete Methods																				
<table><thead><tr><th>Modifier and Type</th><th>Method and Description</th></tr></thead><tbody><tr><td>Polynomial</td><td>add(Polynomial other)</td></tr><tr><td>boolean</td><td>equals(java.lang.Object obj)</td></tr><tr><td>double</td><td>evalWithX(double x)</td></tr><tr><td>double</td><td>getCoef(int index)</td></tr><tr><td>double[]</td><td>getCoefficients()</td></tr><tr><td>Polynomial</td><td>mult(Polynomial other)</td></tr><tr><td>void</td><td>setCoef(int index, double value)</td></tr><tr><td>Polynomial</td><td>sub(Polynomial other)</td></tr><tr><td>java.lang.String</td><td>toString()</td></tr></tbody></table>		Modifier and Type	Method and Description	Polynomial	add(Polynomial other)	boolean	equals(java.lang.Object obj)	double	evalWithX(double x)	double	getCoef(int index)	double[]	getCoefficients()	Polynomial	mult(Polynomial other)	void	setCoef(int index, double value)	Polynomial	sub(Polynomial other)	java.lang.String	toString()
Modifier and Type	Method and Description																				
Polynomial	add(Polynomial other)																				
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double	getCoef(int index)																				
double[]	getCoefficients()																				
Polynomial	mult(Polynomial other)																				
void	setCoef(int index, double value)																				
Polynomial	sub(Polynomial other)																				
java.lang.String	toString()																				
Methods inherited from class java.lang.Object																					
clone, finalize, getClass, hashCode, notify, notifyAll, wait, wait, wait																					
Field Detail																					
coefficients																					
private final double[] coefficients																					
coefficients data field																					
Constructor Detail																					
Polynomial																					
public Polynomial()																					
no parameter constructor																					
Polynomial																					
public Polynomial(double[] arr)																					
Parameters:																					
arr - another array constructor with a double array parameter																					

All Classes

Polynomial
PolynomialTest

Method Detail**getCoefficients**

```
public double[] getCoefficients()
```

Returns:
all private coefficients

setCoef

```
public void setCoef(int index,  
                   double value)
```

Parameters:
index - is which coefficient
value - is new coefficient value

getCoef

```
public double getCoef(int index)
```

Parameters:
index - is which coefficient

Returns:
value of coefficient

evalWithX

```
public double evalWithX(double x)
```

Parameters:
x - evaluate the polynomial

Returns:
result

add

```
public Polynomial add(Polynomial other)
```

Parameters:
other - will be added to object

Returns:
addition of two polynomials checks if polynomial degrees are equal or not then calculates result

All Classes

Polynomial
PolynomialTest

Returns:
other - will be added to object

Returns:
addition of two polynomials checks if polynomial degrees are equal or not then calculates result

sub

```
public Polynomial sub(Polynomial other)
```

Parameters:
other - will be added to object

Returns:
subtraction of two polynomials checks if polynomial degrees are equal or not then calculates result

mult

```
public Polynomial mult(Polynomial other)
```

Parameters:
other - as multiplier

Returns:
result of multiply operation

toString

```
public java.lang.String toString()
```

Overrides:
toString in class java.lang.Object

equals

```
public boolean equals(java.lang.Object obj)
```

Overrides:
equals in class java.lang.Object

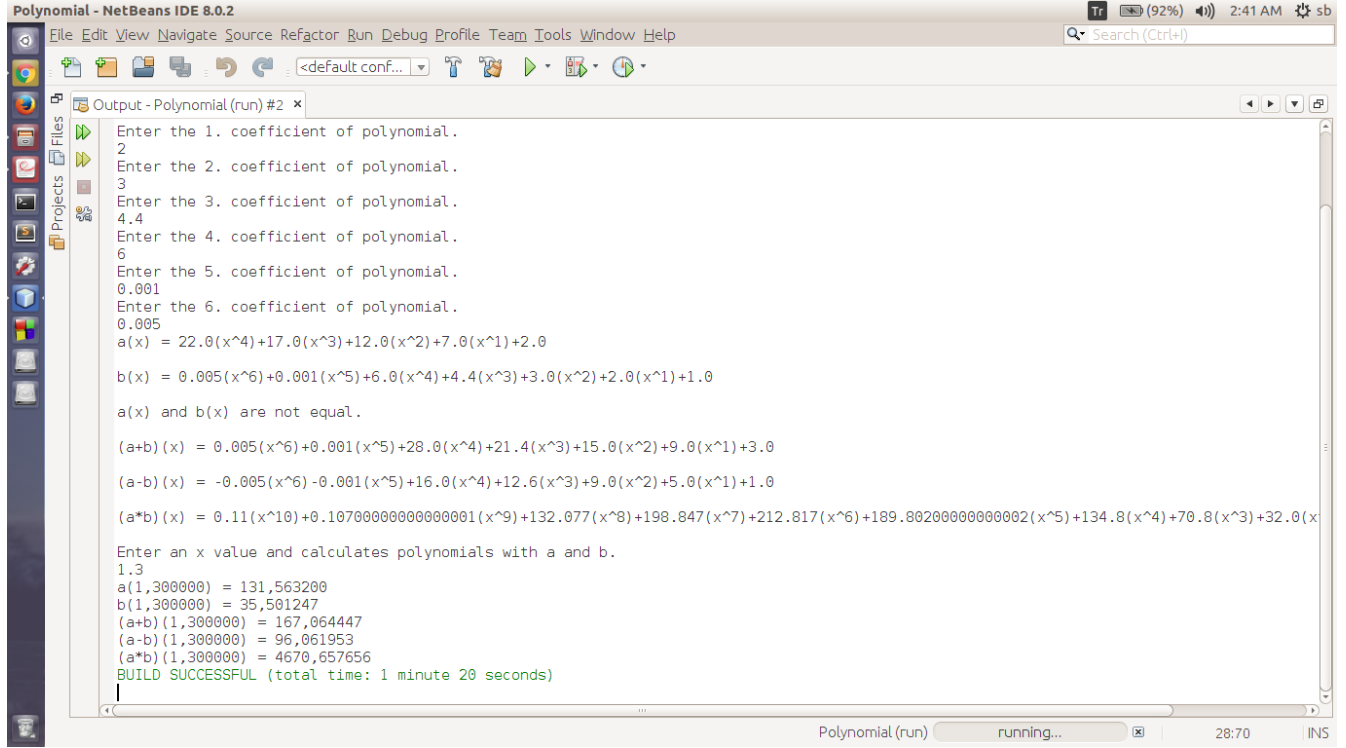
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Tüm methodları test edince aşağıdaki gibi output oluştu.



```
Polynomial - NetBeans IDE 8.0.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Search (Ctrl+)

Output - Polynomial (run) #2 x
Enter the 1. coefficient of polynomial.
2
Enter the 2. coefficient of polynomial.
3
Enter the 3. coefficient of polynomial.
4.4
Enter the 4. coefficient of polynomial.
6
Enter the 5. coefficient of polynomial.
0.001
Enter the 6. coefficient of polynomial.
0.005
a(x) = 22.0(x^4)+17.0(x^3)+12.0(x^2)+7.0(x^1)+2.0
b(x) = 0.005(x^6)+0.001(x^5)+6.0(x^4)+4.4(x^3)+3.0(x^2)+2.0(x^1)+1.0
a(x) and b(x) are not equal.
(a+b)(x) = 0.005(x^6)+0.001(x^5)+28.0(x^4)+21.4(x^3)+15.0(x^2)+9.0(x^1)+3.0
(a-b)(x) = -0.005(x^6)-0.001(x^5)+16.0(x^4)+12.6(x^3)+9.0(x^2)+5.0(x^1)+1.0
(a*b)(x) = 0.11(x^10)+0.1070000000000001(x^9)+132.077(x^8)+198.847(x^7)+212.817(x^6)+189.80200000000002(x^5)+134.8(x^4)+70.8(x^3)+32.0(x^2)+14.0(x^1)+2.0
Enter an x value and calculates polynomials with a and b.
1.3
a(1,300000) = 131,563200
b(1,300000) = 35,501247
(a+b)(1,300000) = 167,064447
(a-b)(1,300000) = 96,061953
(a*b)(1,300000) = 4670,657656
BUILD SUCCESSFUL (total time: 1 minute 20 seconds)
```

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