Kurs Komputerowy S

System Symboliczny

Mathematica

Operacje na ...

... tekstach

StringQ[s]
StringLength[s]
StringReverse[s]
StringTake[s,n]
StringDrop[s,n]
StringInsert[s,nowy,n]
StringPosition[s,tekst]
StringReplace[s,stary->nowy]
StringJoin[s1,s2,...]

```
s = "To jest kurs S";
StringQ[s]
```

```
True
```

```
StringLength[s]
```

```
14
```

```
StringReverse[s]
```

```
S sruk tsej oT
```

```
StringTake[s, 5]
```

```
To je
```

```
StringTake[s, {5}]
```

```
e
```

```
StringDrop[s, 5]
```

```
st kurs S
```

```
StringDrop[s, {5}]
```

```
To jst kurs S
```

```
StringInsert[s, " komputerowy", 13]
```

```
To jest kurs komputerowy S
```

```
StringPosition[s, "kurs"]
```

```
{{9, 12}}
```

```
StringPosition[s, "s"]
```

```
{{6, 6}, {12, 12}}
```

```
StringReplace[s, "S" → "T"]
```

```
To jest kurs T
```

```
StringJoin[s, " i T"]
```

```
To jest kurs S i T
```

Characters[s]
ToCharacterCode[s]
FromCharacterCode[kod]
LetterQ[s]
DigitQ[s]
UpperCaseQ[s]
LowerCaseQ[s]
ToUpperCase[s]
ToLowerCase[s]
ToString[wyrazenie]
ToExpression[s]
SyntaxQ[s]

```
Characters[s]
```

```
{T, o,  , j, e, s, t,  , k, u, r, s,  , S}
```

```
Length[%]
```

```
14
```

```
Length[s]
```

```
0
```

```
ToCharacterCode[s]
```

```
{84, 111, 32, 106, 101, 115, 116, 32, 107, 117, 114, 115, 32, 83}
```

```
t = 48 + RandomInteger[9, 15]
```

```
{50, 50, 49, 51, 52, 53, 49, 56, 49, 49, 51, 55, 56, 56, 51}
```

```
FromCharacterCode[t]
```

```
221345181137883
```

```
FromCharacterCode[Range[127 - 32] + 31]
```

```
 !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^
  _`abcdefghijklmnopqrstuvwxyz{|}~
```

```
LetterQ[s]
```

```
False
```

```
LetterQ["TojestkursS"]
```

```
True
```

```
DigitQ["2a"]
```

```
False
```

```
DigitQ["54235277"]
```

```
True
```

```
ToUpperCase[s]
```

```
TO JEST KURS S
```

```
ToLowerCase[s]
```

```
to jest kurs s
```

```
ToString[2 + 5]
```

```
7
```

```
DigitQ[%]
```

```
True
```

```
DigitQ[7]
```

DigitQ::string: String expected at position 1 in DigitQ[7]. ≫

```
DigitQ[7]
```

```
st = ToString[HoldForm[2 + 5]]
```

```
2 + 5
```

```
StringLength[%]
```

```
5
```

```
SyntaxQ[st]
```

```
True
```

```
ToExpression[st]
```

```
7
```

```
st1 = "Solve[x^2-2x==8,x]"
```

```
Solve[x^2-2x==8,x]
```

```
SyntaxQ[st1]
```

```
True
```

```
ToExpression[st1]
```

```
{{x → -2}, {x → 4}}
```

```
st2 = "Solve[x^2-2x==8,x"
```

```
Solve[x^2-2x==8,x
```

```
SyntaxQ[st2]
```

```
False
```

■ ... plikach

operacje wysokiego poziomu

Directory[]
SetDirectory[katalog]
ParentDirectory[]

```
Directory[]
```

```
D:\Rodzice
```

```
SetDirectory["f:/kks/2009/test"]
```

```
f:\kks\2009\test
```

```
ParentDirectory[]
```

```
f:\kks\2009
```

FileNames[wzorzec]
FindFile[plik]
FileExistsQ[plik]

```
FileNames[]
```

```
{a.txt, b.txt, c.inp, c.txt}
```

```
FileNames["*.txt"]
```

```
{a.txt, b.txt, c.txt}
```

```
FindFile["a.txt"]
```

```
F:\kks\2009\test\a.txt
```

```
FileExistsQ["a.inp"]
```

```
False
```

```
FileExistsQ["07-Teksty.nb"]
```

```
False
```

```
SetDirectory[".."]
FileExistsQ["07-Teksty.nb"]
```

```
f:\kks\2009
```

```
True
```

CopyFile[plik1,plik2]
DeleteFile[plik]

```
FileNames[]
```

```
{a.txt, b.txt, c.inp, c.txt}
```

```
CopyFile["a.txt", "a.inp"]
```

```
F:\kks\2009\test\a.inp
```

```
FileNames[]
```

```
{a.inp, a.txt, b.txt, c.inp, c.txt}
```

```
DeleteFile["a.inp"]
```

```
FileNames[]
```

```
{a.txt, b.txt, c.inp, c.txt}
```

```
FilePrint[plik]
Get[plik]                          (*  <<  *)
Put[wyrazenie,plik]                (*  >>  *)
PutAppend[wyrazenie,plik]  (*  >>>  *)
Save[plik,wyrazenie]
```

```
SetDirectory["test"]
```

```
f:\kks\2009\test
```

```
FilePrint["a.txt"]
```

```
a=2+7
b=5+a
```

```
a
b
```

```
a
```

```
b
```

```
<< a.txt
```

```
14
```

```
a
b
```

```
9
```

```
14
```

```
f = Expand[(3 + 2 x)^4]
```

$$81 + 216\,x + 216\,x^2 + 96\,x^3 + 16\,x^4$$

```
f >> a1.txt
```

```
FilePrint["a1.txt"]
```

```
81 + 216*x + 216*x^2 + 96*x^3 + 16*x^4
```

```
g = Simplify[f / (3 + 2 x)]
```

```
(3 + 2 x)^3
```

```
g >>> a1.txt
```

```
FilePrint["a1.txt"]
```

```
81 + 216*x + 216*x^2 + 96*x^3 + 16*x^4
(3 + 2*x)^3
```

```
Save["a2.txt", {f, g}]
```

```
FilePrint["a2.txt"]
```

```
f = 81 + 216*x + 216*x^2 + 96*x^3 + 16*x^4

g = (3 + 2*x)^3
```

operacje niskiego poziomu

OpenWrite[plik]
OpenAppend[plik]
Write[strumieæ,wyrazenie]
WriteString[strumien,tekst]
Close[strumien]

```
a = OpenWrite["q.txt"]
```

```
OutputStream[q.txt, 26]
```

```
Write[a, 2 + x]
```

```
Write[a, +3 x^2]
```

```
Close[a]
```

```
q.txt
```

```
FilePrint["q.txt"]
```

```
2 + x
3*x^2
```

```
a = OpenWrite["q2.txt"]
```

```
OutputStream[q2.txt, 27]
```

```
WriteString[a, "2+x"]
```

```
WriteString[a, "+3x^2"]
```

```
Close[a]
```

```
q2.txt
```

```
FilePrint["q2.txt"]
```

```
2+x+3x^2
```

typy :
Byte
Character
Real
Number
Word
Record
String
Expression

OpenRead[plik]
ReadList[strumien,tekst]
Read[strumieæ,typ]
StreamPosition[strumien]
SetStreamPosition[strumien,pozycja]
Skip[strumien,typ]
Close[strumien]

```
a = OpenRead["b.txt"]
```

```
InputStream[b.txt, 28]
```

```
ReadList[a, Number]
```

```
{2, 5, 4, 6, 7, 4, 5, 3, 8, 5, 6, 3, 6, 8, 7, 4}
```

```
SetStreamPosition[a, 0]
```

```
0
```

```
ReadList[a, Number, RecordLists → True]
```

```
{{2, 5, 4, 6}, {7, 4, 5, 3}, {8, 5, 6, 3}, {6, 8, 7, 4}}
```

```
SetStreamPosition[a, 0]
ReadList[a, {Number, Number}]
```

```
{{2, 5}, {4, 6}, {7, 4}, {5, 3}, {8, 5}, {6, 3}, {6, 8}, {7, 4}}
```

```
Close[a]
```

```
b.txt
```

```
a = OpenRead["b.txt"]
```

```
InputStream[b.txt, 29]
```

```
Read[a, Number]
```

```
2
```

```
StreamPosition[a]
```

```
1
```

```
Skip[a, Number]
```

```
Read[a, Number]
```

```
4
```

```
FilePrint["b.txt"]
```

```
2 5 4 6
7 4 5 3
8 5 6 3
6 8 7 4
```

```
Close[a]
```

```
b.txt
```