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| Aleksandar Toplek, 4. ET2 |
| Dokumentacija - Easy Spreadsheet |
| Maturalna radnja – Proračunske tablice |

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| Aleksandar Toplek  10/15/2011 |

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# Predgovor

* Potrebno je kreirati aplikaciju za tablično računanje. Aplikacija, osim tabličnog računanja unesenih podataka, treba omogućavati i rad s formulama, oblikovanje teksta, oblikovanje obruba, više stranica po dokumentu, izradu grafova te ispis.
* Visual C#, WPF

# Objašnjenje i rad aplikacije

## Obrada formula

Da bi se započela obrada formule potrebno je, nakon upsivanja formule u pripadajući formular, pritisnuti gumb za prihvačanje unosa (). Pritiskom na taj gumb, tekst unosa daje se statičnoj klasi '*Evaluator'* koja izvršava sve potrebne operacije i vraća rezultat obrade formule koji je najčešće decimalni broj ili tekst, a može biti i *datum, objekt,* greška, itd. Unesena formula se također dade poništiti () što ponovno vrača prijašnju unesenu formulu.

Formule pisane u Microsoft Office Excel aplikaciji su podržane sintaksom i funkcijama. Excel standard operacije je široko poznati i primjenjuje se u mnogim aplikacijama za tabličnu obradu te tako i u ovoj aplikaciji.

Slijedi niz tablica koje ukazuju na to koje su operacije, funkcije i tipovi podataka implementirane u ovoj aplikacije.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Vrsta operacije** | **Naziv operacije** | **Simbol operacije** | **Redosljed** | **Primjer** |
| Aritmetički operatori | Zbrajanje | + | 2 | = 2.5 + 125.2333 |
| Oduzimanje | - | 2 | = 2.5 - 98 |
| Množenje | \* | 3 | = 144 \* 98 |
| Dijeljenje | / | 3 | = 10 / 3 |
| Potenciranje | ^ | 4 | = 2^14 |
| Modus broja | % | 5 | = 512 % 2 |
| Operatori usporedbe | Jednako/Rezultat | = | 1 | = 25 = 36 |
| Veće | > | 1 | = 144 > 2^16 |
| Manje | < | 1 | = 1 < 0 |
| Veće ili Jednako | >= | 1 | = 788 >= 920/4 |
| Manje ili Jednako | <= | 1 | = 455 <= 455 |
| Različito | <> | 1 | = 125 <> 5^3 |
| Spajanje teksta | Spoji | & | 0 | = „Foo“ & „Bar“ |

Tabela 1 Popis implementiranih operacija

|  |  |  |
| --- | --- | --- |
| **Nazic tipa podataka** | **Podržanje operacije** | **Primjer** |
| Decimal | |  | | --- | | + | | - | | \* | | / | | ^ | | % | | = | | > | | < | | >= | | <= | | <> | | -2,2350012411547889  -2,33E+25  -2,33E25 |

Tabela 2 Popis implementiranih tipova podataka

# Kod aplikacije

# Isječci aplikacije

# Reference

## Osnovne stranice

* Bing *(*[*http://www.bing.com/*](http://www.bing.com/)*)*
* Wikipedia *(*[*http://www.wikipedia.org/*](http://www.wikipedia.org/)*)*
* MSDN *(*[*http://msdn.microsoft.com/en-us/*](http://msdn.microsoft.com/en-us/)*)*
* Wordpress *(*[*http://wordpress.com/*](http://wordpress.com/)*)*

## Korištene kontrole i ideje dizajna

* Fluent Ribbon Control Suite *(*[*http://fluent.codeplex.com/*](http://fluent.codeplex.com/)*)*
* GemBox.Spreadsheet *(*[*http://www.gemboxsoftware.com/*](http://www.gemboxsoftware.com/)*)*
* Johnny Westlae (<http://www.youtube.com/user/JohnnyWestlae?feature=watch>)

## OpenDocument standard

* [*http://opendocument.xml.org/*](http://opendocument.xml.org/)
* [*http://www.oasis-open.org/committees/download.php/12572/OpenDocument-v1.0-os.pdf*](http://www.oasis-open.org/committees/download.php/12572/OpenDocument-v1.0-os.pdf)

## Podrška za Excel Formule

* [*http://office.microsoft.com/en-us/excel-help/list-of-worksheet-functions-by-category-HP005204211.aspx*](http://office.microsoft.com/en-us/excel-help/list-of-worksheet-functions-by-category-HP005204211.aspx)*[[1]](#footnote-1)*
* [*http://office.microsoft.com/en-us/excel-help/overview-of-formulas-HP010342750.aspx?CTT=1*](http://office.microsoft.com/en-us/excel-help/overview-of-formulas-HP010342750.aspx?CTT=1)*[[2]](#footnote-2)*
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   3. [*http://www.decisionmodels.com/calcsecretsi.htm*](http://www.decisionmodels.com/calcsecretsi.htm)
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2. Parser[[5]](#footnote-5)
   1. [*http://en.wikipedia.org/wiki/Recursive\_descent\_parser*](http://en.wikipedia.org/wiki/Recursive_descent_parser)
   2. [*http://www.itu.dk/people/kfl/parsernotes.pdf*](http://www.itu.dk/people/kfl/parsernotes.pdf)*)*
   3. [*http://stackoverflow.com/questions/1574723/parser-how-to-in-net*](http://stackoverflow.com/questions/1574723/parser-how-to-in-net)
   4. [*http://stackoverflow.com/questions/673113/poor-mans-lexer-for-c-sharp*](http://stackoverflow.com/questions/673113/poor-mans-lexer-for-c-sharp)
   5. [*http://txt2re.com/index-csharp.php3?s=123456%20eee%20123.5e12/125-6&11*](http://txt2re.com/index-csharp.php3?s=123456%20eee%20123.5e12/125-6&11)
   6. [*http://en.wikipedia.org/wiki/Parse\_tree*](http://en.wikipedia.org/wiki/Parse_tree)
   7. [*http://homepage.smc.edu/kennedy\_john/PARSETREES.PDF*](http://homepage.smc.edu/kennedy_john/PARSETREES.PDF)
   8. [*http://www.cs.man.ac.uk/~pjj/cs212/ho/node8.html*](http://www.cs.man.ac.uk/~pjj/cs212/ho/node8.html)
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   13. [*http://csis.pace.edu/~wolf/CS122/infix-postfix.htm*](http://csis.pace.edu/~wolf/CS122/infix-postfix.htm)
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2. Excel sintaksa [↑](#footnote-ref-2)
3. Općenito korištenje formula i napredne funkcije Excela [↑](#footnote-ref-3)
4. Leksička analiza matematičke formule [↑](#footnote-ref-4)
5. Parser obrada leksički obrađenih elemenata [↑](#footnote-ref-5)