



ΠΑΝΕΠΙΣΤΗΜΙΟ
ΠΑΤΡΩΝ
UNIVERSITY OF PATRAS

Αρχές Γλωσσών Προγραμματισμού & Μεταφραστών Εργαστηριακή Άσκηση Flex & Bison 2022

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Πίνακας περιεχομένων

1. Στοιχεία Ομάδας: Φοιτητές (Γ' Έτος):.....	1
2. Περιγραφή της γραμματικής της γλώσσας σε BNF.	2
3. Τελικά Αρχεία Flex & Bison.	4
4. Παραδείγματα Εφαρμογής	10
5. Σχόλια – Διευκρινήσεις σχετικά με την εργασία.....	21

2. Περιγραφή της γραμματικής της γλώσσας σε BNF.

`<object>::= LBRACE <temp> COMMA <tempe> RBRACE | LBRACE <tempe2> RBRACE ;`

`<temp>::= LAST COLON LBRACE GAMEID COLON INTEGER COMMA DRAWID COLON INTEGER COMMA DRAWTIME COLON INTEGER COMMA STATUS COLON STRING COMMA DRAWBREAK COLON INTEGER COMMA VISUALDRAW COLON INTEGER COMMA PRICEPOINTS COLON LBRACE AMOUNT COLON FLOAT RBRACE COMMA WINNINGNUMBERS COLON LBRACE LIST COLON <array> COMMA BONUS COLON <arrena> RBRACE COMMA <kanonasprize> COMMA <kanonaswager> RBRACE ;`

`<kanonasprize>::= PRIZECATEGORIES COLON <arr> ;`

`<arr>::= LBRACKET RBRACKET | LBRACKET <arr_elem> RBRACKET;`

`<arr_elem>::= <newobject> | <arr_elem> COMMA <newobject> ;`

`<newobject>::= <object1> | <object2> ;`

`<object1>::= LBRACE ID COLON INTEGER COMMA DIVIDENT COLON FLOAT COMMA WINNERS COLON INTEGER COMMA DISTRIBUTED COLON FLOAT COMMA JACKPOT COLON FLOAT COMMA FIXED COLON FLOAT COMMA CATEGORYTYPE COLON INTEGER COMMA GAMETYPE COLON STRING RBRACE ;`

`<object2>::= LBRACE ID COLON INTEGER COMMA DIVIDENT COLON FLOAT COMMA WINNERS COLON INTEGER COMMA DISTRIBUTED COLON FLOAT COMMA JACKPOT COLON FLOAT COMMA FIXED COLON FLOAT COMMA CATEGORYTYPE COLON INTEGER COMMA GAMETYPE COLON STRING COMMA MINIMUMDISTRIBUTED COLON FLOAT RBRACE ;`

<kanonaswager>::= WAGERSTATISTICS COLON LBRACE COLUMNS COLON
 INTEGER COMMA WAGERS COLON INTEGER COMMA ADDON COLON <jsonarr>
 RBRACE ;

<jsonarr>::= LBRACKET RBRACKET | LBRACKET <jsonarr_elem> RBRACKET ;

<jsonarr_elem>::= <value> | <jsonarr_elem> COMMA <value> ;

<array>::= LBRACKET RBRACKET | LBRACKET <array_elem> RBRACKET ;

<array_elem>::= INTEGER | <array_elem> COMMA INTEGER ;

<tempe>::= ACTIVE COLON LBRACE GAMEID COLON INTEGER COMMA DRAWID
 COLON INTEGER COMMA DRAWTIME COLON INTEGER COMMA STATUS COLON
 STRING COMMA DRAWBREAK COLON INTEGER COMMA VISUALDRAW COLON
 INTEGER COMMA PRICEPOINTS COLON LBRACE AMOUNT COLON FLOAT
 RBRACE COMMA <kanonasprize> COMMA <kanonaswager> RBRACE ;

<tempe2>::= CONTENT COLON <arrnew> COMMA <rangerule> ;

<rangerule>::= TOTALPAGES COLON INTEGER COMMA TOTALELEMENTS
 COLON INTEGER COMMA LAST COLON BOOL COMMA NUMBEROFELEMENTS
 COLON INTEGER COMMA SORT COLON LBRACKET LBRACE DIRECTION COLON
 STRING COMMA PROPERTY COLON STRING COMMA IGNORECASE COLON BOOL
 COMMA NULLHANDLING COLON STRING COMMA DESCENDING COLON BOOL
 COMMA ASCENDING COLON BOOL RBRACE RBRACKET COMMA FIRST COLON
 BOOL COMMA SIZE COLON INTEGER COMMA NUMBER COLON INTEGER ;

<arrnew>::= LBRACKET RBRACKET | LBRACKET <arrnew_elem> RBRACKET ;

<arrnew_elem>::= LBRACE GAMEID COLON INTEGER COMMA DRAWID COLON
 INTEGER COMMA DRAWTIME COLON INTEGER COMMA STATUS COLON
 STRING COMMA DRAWBREAK COLON INTEGER COMMA VISUALDRAW COLON
 INTEGER COMMA PRICEPOINTS COLON LBRACE AMOUNT COLON FLOAT
 RBRACE COMMA WINNINGNUMBERS COLON LBRACE LIST COLON <array>
 COMMA BONUS COLON <arrena> RBRACE COMMA <kanonasprize> COMMA
 <kanonaswager> RBRACE | <arrnew_elem> COMMA LBRACE GAMEID COLON
 INTEGER COMMA DRAWID COLON INTEGER COMMA DRAWTIME COLON
 INTEGER COMMA STATUS COLON STRING COMMA DRAWBREAK COLON
 INTEGER COMMA VISUALDRAW COLON INTEGER COMMA PRICEPOINTS
 COLON LBRACE AMOUNT COLON FLOAT RBRACE COMMA WINNINGNUMBERS
 COLON LBRACE LIST COLON <array> COMMA BONUS COLON <arrena> RBRACE
 COMMA <kanonasprize> COMMA <kanonaswager> RBRACE ;

<arrena>::= LBRACKET INTEGER RBRACKET ;

<value>::= INTEGER | FLOAT | STRING ;

3. Τελικά Αρχεία Flex & Bison.

Λεκτικό Αρχείο Flex: (lexiko3.l)

```
%{  
#include<stdio.h>  
#include<string.h>  
#include<stdbool.h>  
#include<stdlib.h>  
#define ECHO fwrite(yytext,yyldeng,1,yyout)  
#include "syntaksi3.tab.h"  
extern void yyerror(const char* s);  
%}  
%option yylineno  
%option noyywrap  
%%  
"{" {ECHO; return LBRACE;}  
"}" {ECHO; return RBRACE;}  
":" {ECHO; return COLON;}  
"," {ECHO; return COMMA;}  
"[" {ECHO; return LBRACKET;}  
"]" {ECHO; return RBRACKET;}  
"\"last\""" {ECHO; return LAST;}  
"\"amount\""" {ECHO; return AMOUNT;}  
"\"gameId\""" {ECHO; return GAMEID;}  
"\"drawId\""" {ECHO; return DRAWID;}  
"\"drawTime\""" {ECHO; return DRAWTIME;}  
"\"drawBreak\""" {ECHO; return DRAWBREAK;}  
"\"visualDraw\""" {ECHO; return VISUALDRAW;}  
"\"status\""" {ECHO; return STATUS;}  
"\"pricePoints\""" {ECHO; return PRICEPOINTS;}  
"\"winningNumbers\""" {ECHO; return WINNINGNUMBERS;}  
"\"list\""" {ECHO; return LIST;}  
"\"bonus\""" {ECHO; return BONUS;}  
"\"prizeCategories\""" {ECHO; return PRIZECATEGORIES;}  
"\"wagerStatistics\""" {ECHO; return WAGERSTATISTICS;}
```

```

"\active\""" {ECHO; return ACTIVE;}
"id\""" {ECHO; return ID;}
"divident\""" {ECHO; return DIVIDENT;}
"winners\""" {ECHO; return WINNERS;}
"distributed\""" {ECHO; return DISTRIBUTED;}
"jackpot\""" {ECHO; return JACKPOT;}
"fixed\""" {ECHO; return FIXED;}
"categoryType\""" {ECHO; return CATEGORYTYPE;}
"gameType\""" {ECHO; return GAMETYPE;}
"columns\""" {ECHO; return COLUMNS;}
"wagers\""" {ECHO; return WAGERS;}
"addOn\""" {ECHO; return ADDON;}
"content\""" {ECHO; return CONTENT;}
"totalPages\""" {ECHO; return TOTALPAGES;}
"totalElements\""" {ECHO; return TOTALELEMENTS;}
"numberOfElements\""" {ECHO; return NUMBEROFELEMENTS;}
"sort\""" {ECHO; return SORT;}
"direction\""" {ECHO; return DIRECTION;}
"property\""" {ECHO; return PROPERTY;}
"ignoreCase\""" {ECHO; return IGNORECASE;}
"nullHandling\""" {ECHO; return NULLHANDLING;}
"descending\""" {ECHO; return DESCENDING;}
"ascending\""" {ECHO; return ASCENDING;}
"first\""" {ECHO; return FIRST;}
"size\""" {ECHO; return SIZE;}
"number\""" {ECHO; return NUMBER;}
"true"|"false" {ECHO; return BOOL;}
"minimumDistributed\""" {ECHO; return MINIMUMDISTRIBUTED;}
\[^\]*\" {yylval.string=strdup(yytext); ECHO; return STRING;}
[0-9]+\.[0-9]+ {ECHO; yyval.pragmatikos=atof(yytext); return FLOAT;}
[0-9]+ {ECHO; yyval.integer=atoi(yytext); return INTEGER;}
\n" {}
[\t]+ {}
. {}
%%

```

Συντακτικό Αρχείο Bison: (syntaksi3.y)

```
%{  
#include<stdio.h>  
#include<stdlib.h>  
#include<string.h>  
#include<stdbool.h>  
extern int yylineno;  
extern char* yytext;  
extern FILE* yyin;  
extern FILE* yyout;  
int yylex();  
void yyerror(const char* s);  
int yydebug=1;  
%}  
%token LBRACE RBRACE COMMA COLON LBRACKET RBRACKET  
%token GAMEID DRAWID DRAWTIME STATUS DRAWBREAK VISUALDRAW PRICEPOINTS AMOUNT  
%token WINNINGNUMBERS PRIZECATEGORIES WAGERSTATISTICS LIST BONUS  
%token LAST ACTIVE  
%token ID DIVIDENT WINNERS DISTRIBUTED JACKPOT FIXED CATEGORYTYPE GAMETYPE  
%token COLUMNS WAGERS ADDON  
%token <string> STRING;  
%token <integer> INTEGER;  
%token <pragmatikos> FLOAT;  
%token BOOL;  
%token CONTENT TOTALPAGES TOTALELEMENTS NUMBEROFELEMENTS SORT DIRECTION PROPERTY  
IGNORECASE NULLHANDLING DESCENDING ASCENDING FIRST SIZE NUMBER  
%token MINIMUMDISTRIBUTED  
%union{  
char* string;  
unsigned int integer;  
double pragmatikos;  
bool alithia;  
}  
%start object  
%%
```

object: LBRACE temp COMMA tempe RBRACE | LBRACE tempe2 RBRACE ;

temp: LAST COLON LBRACE GAMEID COLON INTEGER COMMA DRAWID COLON INTEGER COMMA
DRAWTIME COLON INTEGER COMMA STATUS COLON STRING COMMA DRAWBREAK COLON INTEGER
COMMA VISUALDRAW COLON INTEGER COMMA PRICEPOINTS COLON LBRACE AMOUNT COLON FLOAT
RBRACE COMMA WINNINGNUMBERS COLON LBRACE LIST COLON array COMMA BONUS COLON arrena
RBRACE COMMA kanonasprize COMMA kanonaswager RBRACE ;

kanonasprize: PRIZECATEGORIES COLON arr ;

arr: LBRACKET RBRACKET | LBRACKET arr_elem RBRACKET;

arr_elem: newobject | arr_elem COMMA newobject ;

newobject: object1 | object2 ;

object1: LBRACE ID COLON INTEGER COMMA DIVIDENT COLON FLOAT COMMA WINNERS COLON
INTEGER COMMA DISTRIBUTED COLON FLOAT COMMA JACKPOT COLON FLOAT COMMA FIXED COLON
FLOAT COMMA CATEGORYTYPE COLON INTEGER COMMA GAMETYPE COLON STRING RBRACE ;

object2: LBRACE ID COLON INTEGER COMMA DIVIDENT COLON FLOAT COMMA WINNERS COLON
INTEGER COMMA DISTRIBUTED COLON FLOAT COMMA JACKPOT COLON FLOAT COMMA FIXED COLON
FLOAT COMMA CATEGORYTYPE COLON INTEGER COMMA GAMETYPE COLON STRING COMMA
MINIMUMDISTRIBUTED COLON FLOAT RBRACE ;

kanonaswager: WAGERSTATISTICS COLON LBRACE COLUMNS COLON INTEGER COMMA WAGERS COLON
INTEGER COMMA ADDON COLON jsonarr RBRACE ;

jsonarr: LBRACKET RBRACKET | LBRACKET jsonarr_elem RBRACKET ;

jsonarr_elem: value | jsonarr_elem COMMA value ;

array: LBRACKET RBRACKET | LBRACKET array_elem RBRACKET ;

array_elem: INTEGER | array_elem COMMA INTEGER ;

tempe: ACTIVE COLON LBRACE GAMEID COLON INTEGER COMMA DRAWID COLON INTEGER COMMA
DRAWTIME COLON INTEGER COMMA STATUS COLON STRING COMMA DRAWBREAK COLON INTEGER
COMMA VISUALDRAW COLON INTEGER COMMA PRICEPOINTS COLON LBRACE AMOUNT COLON FLOAT
RBRACE COMMA kanonasprize COMMA kanonaswager RBRACE ;

tempe2: CONTENT COLON arrnew COMMA rangerule ;

rangerule: TOTALPAGES COLON INTEGER COMMA TOTALELEMENTS COLON INTEGER COMMA LAST
COLON BOOL COMMA NUMBEROFELEMENTS COLON INTEGER COMMA SORT COLON LBRACKET LBRACE
DIRECTION COLON STRING COMMA PROPERTY COLON STRING COMMA IGNORECASE COLON BOOL
COMMA NULLHANDLING COLON STRING COMMA DESCENDING COLON BOOL COMMA ASCENDING COLON
BOOL RBRACE RBRACKET COMMA FIRST COLON BOOL COMMA SIZE COLON INTEGER COMMA NUMBER
COLON INTEGER ;

arrnew: LBRACKET RBRACKET | LBRACKET arrnew_elem RBRACKET ;

arrnew_elem: LBRACE GAMEID COLON INTEGER COMMA DRAWID COLON INTEGER COMMA DRAWTIME
COLON INTEGER COMMA STATUS COLON STRING COMMA DRAWBREAK COLON INTEGER COMMA
VISUALDRAW COLON INTEGER COMMA PRICEPOINTS COLON LBRACE AMOUNT COLON FLOAT RBRACE
COMMA WINNINGNUMBERS COLON LBRACE LIST COLON array COMMA BONUS COLON arrena RBRACE
COMMA kanonasprize COMMA kanonaswager RBRACE | arrnew_elem COMMA LBRACE GAMEID COLON
INTEGER COMMA DRAWID COLON INTEGER COMMA DRAWTIME COLON INTEGER COMMA STATUS
COLON STRING COMMA DRAWBREAK COLON INTEGER COMMA VISUALDRAW COLON INTEGER COMMA
PRICEPOINTS COLON LBRACE AMOUNT COLON FLOAT RBRACE COMMA WINNINGNUMBERS COLON
LBRACE LIST COLON array COMMA BONUS COLON arrena RBRACE COMMA kanonasprize COMMA
kanonaswager RBRACE ;

arrena: LBRACKET INTEGER RBRACKET ;

value: INTEGER | FLOAT | STRING ;

```

%%
void yyerror(const char* s){
    fprintf(stderr,"error %s in line : %d\n ",s,yylineno);
}

int main(int argc, char** argv){
    FILE* fp=fopen(argv[1],"r");
    char c=fgetc(fp);
    while(c!=EOF){
        printf("%c",c);
        c=fgetc(fp);
    }
    printf("\n\n");
    fclose(fp);
    yyin=fopen(argv[1],"r");
    if(yyparse()==0){
        printf("succesfull parsing\n");
    }
    else{
        printf("unsuccesfull parsing on line:\n");
        yyerror("parse error");
    }
}

```


4. Παραδείγματα Εφαρμογής .

Παραδείγματα Εφαρμογής Σχετικά με τα Errors (ανεπιτυχή αναγνώριση για το αρχείο newlast.txt):

- (ΠΑΡΑΔΕΙΓΜΑ ΛΑΘΟΥΣ ΤΥΠΟΥΣ ΔΕΔΟΜΕΝΩΝ) Στο αρχείο newlast.txt αλλάζουμε στη γραμμή 40, το στοιχείο distributed, και αντί για float, θα βάλουμε integer.

```
root@kali:~/TOP-711k11:~# nano syntaks13.y
root@kali:~/TOP-711k11:~# nano newlast.txt
root@kali:~/TOP-711k11:~# flex lexiko3.l
root@kali:~/TOP-711k11:~# bison -d syntaks13.y
root@kali:~/TOP-711k11:~# gcc lex.yy.c syntaks13.tab.c -o myParser.exe
root@kali:~/TOP-711k11:~# ./myParser.exe newlast.txt
{
  "last": {
    "gameId": 5194,
    "drawId": 2390,
    "drawTime": 1642632000000,
    "status": "stop",
    "drawBreak": 1800000,
    "visualDraw": 2390,
    "pricePoints": {
      "amount": 0.5
    },
    "winningNumbers": {
      "list": [
        1,
        29,
        26,
        24,
        17
      ],
      "bonus": [
        0
      ]
    },
    "prizeCategories": [
      {
        "id": 1,
        "divident": 0.0,
        "winners": 0,
        "distributed": 356871.53,
        "drawpot": 240954.15,
        "fixed": 0.0,
        "categoryType": 0,
        "gameType": "Normal",
        "minimumDistributed": 0.0
      },
      {
        "id": 2,
        "divident": 22575.07,
        "winners": 4,
        "distributed": 55170,
        "jackpot": 35124.07,
        "fixed": 0.0,
        "categoryType": 0,
        "gameType": "Normal"
      },
      {
        "id": 3,
        "divident": 2500.0,
        "winners": 20,
        "distributed": 50000.0,
        "jackpot": 0.0,
        "fixed": 2500.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 4,
        "divident": 50.0,
        "winners": 320,
        "distributed": 16300.0,
        "jackpot": 0.0,
        "fixed": 50.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 5,
        "divident": 50.0,
        "winners": 810,
        "distributed": 40000.0,
        "jackpot": 0.0,
        "fixed": 50.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 6,
        "divident": 2.0,
        "winners": 16034,
        "distributed": 35209.0,
        "jackpot": 0.0,
        "fixed": 2.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 7,
        "divident": 2.0,
        "winners": 18041,
        "distributed": 20642.0,
        "jackpot": 0.0,
        "fixed": 2.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 8,
        "divident": 1.5,
        "winners": 49233,
        "distributed": 73849.5,
        "jackpot": 0.0,
        "fixed": 1.5,
        "categoryType": 1,
        "gameType": "Normal"
      }
    ],
    "wagerStatistics": {
      "columns": 2866438,
      "wagers": 583579,
      "addons": []
    }
  },
  "active": {
    "gameId": 5194,
    "drawId": 2391,
    "drawTime": 1642636000000,
    "status": "stop",
    "drawBreak": 1800000,
    "visualDraw": 2391,
    "pricePoints": {

```

```
      "amount": 0.5
    },
    "winningNumbers": {
      "list": [
        1,
        29,
        26,
        24,
        17
      ],
      "bonus": [
        0
      ]
    },
    "prizeCategories": [
      {
        "id": 1,
        "divident": 0.0,
        "winners": 0,
        "distributed": 356871.53,
        "drawpot": 240954.15,
        "fixed": 0.0,
        "categoryType": 0,
        "gameType": "Normal",
        "minimumDistributed": 0.0
      },
      {
        "id": 2,
        "divident": 22575.07,
        "winners": 4,
        "distributed": 55170,
        "jackpot": 35124.07,
        "fixed": 0.0,
        "categoryType": 0,
        "gameType": "Normal"
      },
      {
        "id": 3,
        "divident": 2500.0,
        "winners": 20,
        "distributed": 50000.0,
        "jackpot": 0.0,
        "fixed": 2500.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 4,
        "divident": 50.0,
        "winners": 320,
        "distributed": 16300.0,
        "jackpot": 0.0,
        "fixed": 50.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 5,
        "divident": 50.0,
        "winners": 810,
        "distributed": 40000.0,
        "jackpot": 0.0,
        "fixed": 50.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 6,
        "divident": 2.0,
        "winners": 16034,
        "distributed": 35209.0,
        "jackpot": 0.0,
        "fixed": 2.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 7,
        "divident": 2.0,
        "winners": 18041,
        "distributed": 20642.0,
        "jackpot": 0.0,
        "fixed": 2.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 8,
        "divident": 1.5,
        "winners": 49233,
        "distributed": 73849.5,
        "jackpot": 0.0,
        "fixed": 1.5,
        "categoryType": 1,
        "gameType": "Normal"
      }
    ],
    "wagerStatistics": {
      "columns": 2866438,
      "wagers": 583579,
      "addons": []
    }
  },
  "active": {
    "gameId": 5194,
    "drawId": 2391,
    "drawTime": 1642636000000,
    "status": "stop",
    "drawBreak": 1800000,
    "visualDraw": 2391,
    "pricePoints": {

```


- (ΠΑΡΑΔΕΙΓΜΑ ΔΑΝΘΑΣΜΕΝΗΣ ΣΕΙΡΑΣ TOKEN ΑΠΟ ΑΥΤΗΣ ΠΟΥ ΚΑΝΑΜΕ ΣΤΗΝ ΠΑΡΑΔΟΧΗ): Αλλάζουμε την σειρά εμφάνισης του gameId και drawId. Η σχετική αλλαγή φαίνεται παρακάτω καθώς και το compile:

```
vergman@DESKTOP-711LR13:~$ ./myParser.exe newlast.txt
{
  "last": {
    "drawId": 2390,
    "gameId": 60921,
    "drawTime": 1642363200000,
```

```
error syntax error in line : 3
error parse error in line : 3
{"last":{"drawId":vergman@DESKTOP-711LR13:~$
```

- (ΠΑΡΑΔΕΙΓΜΑ ΑΠΩΛΕΙΑΣ-ΜΗ ΥΠΑΡΞΗΣ ΣΤΟΙΧΕΪΟΥ): Στην γραμμή 117 θα σβήσουμε το στοιχείο status (όπως φαίνεται παρακάτω). Επίσης στην δεύτερη φωτογραφία-screenshot φαίνεται και το αντίστοιχο compile:

```
f,
"active": {
    "gameId": 5104,
    "drawId": 2391,
    "drawTime": 1642536000000,
    "drawBreak": 1800000,
    "visualDraw": 2391,
    "pricePoints": {
        "amount": 0.5
    },

```

- (ΠΑΡΑΔΕΙΓΜΑ ΜΗ ΥΠΑΡΞΗΣ ΣΤΟΙΧΕΙΟΥ ΚΟΜΜΑΤΟΣ): Στη γραμμή 154 θα βγάλουμε το κόμμα και έτσι μας εμφανίζει το error στη γραμμή 155 καθώς περιμένει το κόμμα και έτσι πάει στην επόμενη γραμμή για να το βρει και βρίσκει το token LBRACE:

```

        "gameType": "Normal"
    },
    {
        "id": 3,
        "divident": 0.0,
        "winners": 0,
        "distributed": 0.0,
        "jackpot": 0.0,
        "fixed": 2500.0,
        "categoryType": 1,
        "gameType": "Normal"
    }
    {
        "id": 4,
        "divident": 0.0,
        "winners": 0,
        "distributed": 0.0,
        "jackpot": 0.0,
        "fixed": 50.0,
        "categoryType": 1,
        "gameType": "Normal"
    },

```

Compile:

```

error syntax error in line : 155
error parse error in line : 155
{"last":{"gameId":2390,"drawTime":1642363200000,"status":"assa","drawBreak":1000000,"visualDraw":2390,"pricePoints":{"amount":0.5,"winningNumbers":{"list":[1,29,26,24,17],"bonus":[6]},"prizeCategories":[{"id":1,"divident":0.0,"winners":0,"distributed":356871.53,"jackpot":748954.15,"fixed":0.0,"categoryType":0,"gameType":"Normal","minimumDistributed":0.0}, {"id":2,"divident":22575.07,"winners":4,"distributed":55178.34,"jackpot":35124.97,"fixed":0.0,"categoryType":0,"gameType":"Normal"}, {"id":3,"divident":2500.0,"winners":20,"distributed":50000.0,"jackpot":0.0,"fixed":2500.0,"categoryType":1,"gameType":"Normal"}, {"id":4,"divident":50.0,"winners":226,"distributed":10308.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":5,"divident":150.0,"winners":1816,"distributed":48000.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":6,"divident":2.0,"winners":16634,"distributed":33268.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":7,"divident":2.0,"winners":18341,"distributed":28682.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":8,"divident":1.5,"winners":49239,"distributed":23909.57,"jackpot":0.0,"fixed":1.5,"categoryType":1,"gameType":"Normal"}],"wagerStatistic":{"columns":286438,"wagers":158579,"addOn":{"}}},"active":{"gameId":5104,"drawId":2391,"drawTime":164236000000,"status":"asdds12","drawBreak":1000000,"visualDraw":2391,"pricePoints":{"amount":0.5,"prizeCategories":[{"id":1,"divident":0.0,"winners":0,"distributed":0.0,"jackpot":1109825.68,"fixed":0.0,"categoryType":0,"gameType":"Normal","minimumDistributed":1380000.0}, {"id":2,"divident":0.0,"winners":0,"distributed":0.0,"jackpot":0.0,"fixed":0.0,"categoryType":0,"gameType":"Normal"}, {"id":3,"divident":0.0,"winners":0,"distributed":0.0,"jackpot":0.0,"fixed":2500.0,"categoryType":1,"gameType":"Normal"}]},"vergangete
vergangete@55:~/Top-2111011:~$

```

Παραδείγματα Εφαρμογής Σχετικά με την επιτυχή αναγνώριση για το αρχείο newlast.txt):

```
herman@ESHTOP-711R15:~$ ./myParser.exe newlast.txt
{
  "last": {
    "gameId": 2390,
    "drawId": 28921,
    "drawTime": 1642361208000,
    "status": "Unillustrating",
    "drawDraw": 1808000,
    "visualDraw": 2390,
    "pricePoints": {
      "amount": 0.5
    },
    "winningNumbers": {
      "list": [
        22,
        22,
        26,
        21,
        17
      ],
      "bonus": [
        0
      ]
    },
    "prizeCategories": [
      {
        "id": 1,
        "divident": 0.0,
        "winners": 0,
        "distributed": 358971.53,
        "jackpot": 74891221221224.18,
        "fixed": 0.0,
        "categoryType": 0,
        "gameType": "Normal",
        "minimumDistributed": 0.0
      },
      {
        "id": 2,
        "divident": 22575.97,
        "winners": 4,
        "distributed": 55178.34,
        "jackpot": 35123.87,
        "fixed": 0.0,
        "categoryType": 0,
        "gameType": "Normal"
      },
      {
        "id": 3,
        "divident": 2580.0,
        "winners": 20,
        "distributed": 50800.0,
        "jackpot": 0.0,
        "fixed": 2580.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 4,
        "divident": 50.0,
        "winners": 326,
        "distributed": 16380.0,
        "jackpot": 0.0,

```

```
        "jackpot": 0.0,
        "fixed": 50.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 5,
        "divident": 50.0,
        "winners": 810,
        "distributed": 40800.0,
        "jackpot": 0.0,
        "fixed": 50.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 6,
        "divident": 2.0,
        "winners": 16630,
        "distributed": 33268.0,
        "jackpot": 0.0,
        "fixed": 2.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 7,
        "divident": 2.0,
        "winners": 10341,
        "distributed": 20682.0,
        "jackpot": 0.0,
        "fixed": 2.0,
        "categoryType": 1,
        "gameType": "Normal"
      },
      {
        "id": 8,
        "divident": 1.5,
        "winners": 49233,
        "distributed": 73849.5,
        "jackpot": 0.0,
        "fixed": 1.5,
        "categoryType": 1,
        "gameType": "Normal"
      }
    ],
    "wagerStatistics": {
      "columns": 2806438,
      "wagers": 503579,
      "addOn": []
    }
  },
  "active": {
    "gameId": 5186,
    "drawId": 2391,
    "drawTime": 1642360800000,
    "status": "adding",
    "drawDraw": 1808000,
    "visualDraw": 2391,
    "pricePoints": {
      "amount": 0.5
    }
  }
}
```


Παραδείγματα Εφαρμογής Σχετικά με την επιτυχή αναγνώριση για το αρχείο newrange.txt):

```

herman@DESKTOP-711LR13:~$ ./myParser.exe newrange.txt
{
  "content": [
    {
      "gameId":5184,
      "drawId":2414,
      "drawTime":1647374400000,
      "status":"asd",
      "drawBreak":1800000,
      "drawalDraw":2414,
      "pricePoints": {
        "amount":0.5
      },
      "winningNumbers": {
        "list":[2,38,23,25,32],
        "bonus":[9]
      },
      "prizeCategories": [
        {
          "id":1,
          "divident":0.8,
          "winners":0,
          "distributed":253146.32,
          "jackpot":1089396.17,
          "fixed":0.0,
          "categoryType":0,
          "gameType":"Normal",
          "minimumDistributed":0.0
        },
        {
          "id":2,
          "divident":93998.61,
          "winners":1,
          "distributed":39141.1,
          "jackpot":54949.51,
          "fixed":0.0,
          "categoryType":0,
          "gameType":"Normal"
        },
        {
          "id":3,
          "divident":2500.0,
          "winners":16,
          "distributed":48000.8,
          "jackpot":0.0,
          "fixed":2500.0,
          "categoryType":1,
          "gameType":"Normal"
        },
        {
          "id":4,
          "divident":50.0,
          "winners":265,
          "distributed":13250.0,
          "jackpot":0.0,"fixed":50.0,
          "categoryType":1,
          "gameType":"Normal"
        },
        {
          "id":5,
          "divident":50.0,
          "winners":1003,
          "distributed":48150.0,
          "jackpot":0.0,
          "fixed":50.0,
          "categoryType":1,
          "gameType":"Normal"
        },
        {
          "id":6,
          "divident":2.0,
          "winners":11148,
          "distributed":22290.0,
          "jackpot":0.0,
          "fixed":2.0,
          "categoryType":1,
          "gameType":"Normal"
        },
        {
          "id":7,
          "divident":12.0,
          "winners":19717,
          "distributed":19834.0,
          "jackpot":0.0,
          "fixed":12.0,
          "categoryType":1,
          "gameType":"Normal"
        },
        {
          "id":8,
          "divident":11.5,
          "winners":46429,
          "distributed":69643.5,
          "jackpot":0.0,
          "fixed":11.5,
          "categoryType":1,
          "gameType":"Normal"
        }
      ],
      "wagerStatistic":{
        "columns":2033384,
        "wagers":359687,
        "addOn":[]
      }
    },
    {
      "gameId":5184,
      "drawId":2413,
      "drawTime":1647281600000,
      "status":"results",
      "drawBreak":1800000,
      "drawalDraw":2413,
      "pricePoints":{
        "amount":0.5
      },
      "winningNumbers": {
        "list":[30,44,10,31,38],
        "bonus":[8]
      },
      "prizeCategories": [
        {
          "id":1,

```

```

          "distributed":48150.0,
          "jackpot":0.0,
          "fixed":50.0,
          "categoryType":1,
          "gameType":"Normal"
        },
        {
          "id":6,
          "divident":2.0,
          "winners":11148,
          "distributed":22290.0,
          "jackpot":0.0,
          "fixed":2.0,
          "categoryType":1,
          "gameType":"Normal"
        },
        {
          "id":7,
          "divident":12.0,
          "winners":19717,
          "distributed":19834.0,
          "jackpot":0.0,
          "fixed":12.0,
          "categoryType":1,
          "gameType":"Normal"
        },
        {
          "id":8,
          "divident":11.5,
          "winners":46429,
          "distributed":69643.5,
          "jackpot":0.0,
          "fixed":11.5,
          "categoryType":1,
          "gameType":"Normal"
        }
      ],
      "wagerStatistic":{
        "columns":2033384,
        "wagers":359687,
        "addOn":[]
      }
    },
    {
      "gameId":5184,
      "drawId":2413,
      "drawTime":1647281600000,
      "status":"results",
      "drawBreak":1800000,
      "drawalDraw":2413,
      "pricePoints":{
        "amount":0.5
      },
      "winningNumbers": {
        "list":[30,44,10,31,38],
        "bonus":[8]
      },
      "prizeCategories": [
        {
          "id":1,

```



```

      "dividend":0.0,
      "winners":0,
      "distributed":354740.06,
      "jackpot":734655.21,
      "fixed":0.0,
      "categoryType":0,
      "gameType":"Normal",
      "minimumDistributed":0.0
    },
    {
      "id":12,
      "dividend":0.0,
      "winners":0,
      "distributed":54840.51,
      "jackpot":0.0,
      "fixed":0.0,
      "categoryType":0,
      "gameType":"Normal"
    },
    {
      "id":13,
      "dividend":2500.0,
      "winners":17,
      "distributed":42500.0,
      "jackpot":0.0,
      "fixed":2500.0,
      "categoryType":1,
      "gameType":"Normal"
    },
    {
      "id":14,
      "dividend":150.0,
      "winners":211,
      "distributed":13550.0,
      "jackpot":0.0,
      "fixed":150.0,
      "categoryType":1,
      "gameType":"Normal"
    },
    {
      "id":15,
      "dividend":50.0,
      "winners":796,
      "distributed":39800.0,
      "jackpot":0.0,
      "fixed":50.0,
      "categoryType":1,
      "gameType":"Normal"
    },
    {
      "id":16,
      "dividend":2.0,
      "winners":11150,
      "distributed":22300.0,
      "jackpot":0.0,
      "fixed":2.0,
      "categoryType":1,
      "gameType":"Normal"
    },
    {
      "id":17,
      "dividend":2.0,
      "winners":12880,

```

```

      "distributed":24100.0,
      "jackpot":0.0,
      "fixed":2.0,
      "categoryType":1,
      "gameType":"Normal"
    },
    {
      "id":18,
      "dividend":11.5,
      "winners":16904,
      "distributed":103200.0,
      "jackpot":0.0,
      "fixed":11.5,
      "categoryType":1,
      "gameType":"Normal"
    }
  ],
  "wagenStatistics":{
    "columns":284925,
    "wagers":498453,
    "addOn":[]
  },
  "gameId":5184,
  "drawId":2412,
  "drawTime":1616942400000,
  "status":"results",
  "drawDate":16300000,
  "visualDraw":2412,
  "pricePoint":{"amount":0.5},
  "winningNumbers":{
    "list":[23,16,17,27,40],
    "bonus":[16]
  },
  "prizeCategories":[
    {
      "id":1,
      "dividend":0.0,
      "winners":0,
      "distributed":220875.17,
      "jackpot":510124.83,
      "fixed":0.0,
      "categoryType":0,
      "gameType":"Normal",
      "minimumDistributed":0.0
    },
    {
      "id":2,
      "dividend":56795.63,
      "winners":2,
      "distributed":35097.57,
      "jackpot":77693.7,
      "fixed":0.0,
      "categoryType":0,
      "gameType":"Normal"
    },
    {
      "id":3,
      "dividend":2500.0,
      "winners":7,
      "distributed":17500.0,
      "jackpot":0.0,

```

```

    "drawBreak":1000000,
    "visualDraw":2411,
    "pricePoints":{
      "amount":0.5
    },
    "winningNumbers":{
      "list":[10,2,3,14,19],
      "bonus":[7]
    },
    "prizeCategories":[
      {
        "id":1,
        "divident":0.0,
        "winners":0,
        "distributed":191730.04,
        "jackpot":400261.16,
        "fixed":0.0,
        "categoryType":0,
        "gameType":"Normal",
        "minimumDistributed":0.0
      },
      {
        "id":2,
        "divident":0.0,
        "winners":0,
        "distributed":229646.37,
        "jackpot":40247.33,
        "fixed":0.0,
        "categoryType":0,
        "gameType":"Normal"
      },
      {
        "id":3,
        "divident":2500.0,
        "winners":111,
        "distributed":225000.0,
        "jackpot":0.0,
        "fixed":2500.0,
        "categoryType":1,
        "gameType":"Normal"
      },
      {
        "id":4,
        "divident":50.0,
        "winners":202,
        "distributed":10100.0,
        "jackpot":0.0,
        "fixed":50.0,
        "categoryType":1,
        "gameType":"Normal"
      },
      {
        "id":5,
        "divident":50.0,
        "winners":4041,
        "distributed":28600.0,
        "jackpot":0.0,
        "fixed":50.0,
        "categoryType":1,
        "gameType":"Normal"
      },
      {
        "id":6,

```

```

        "divident":2.0,
        "winners":10091,
        "distributed":16092.0,
        "jackpot":0.0,"fixed":2.0,
        "categoryType":1,
        "gameType":"Normal"
      },
      {
        "id":7,
        "divident":2.0,
        "winners":10441,
        "distributed":16092.0,
        "jackpot":0.0,
        "fixed":2.0,
        "categoryType":1,
        "gameType":"Normal"
      },
      {
        "id":8,
        "divident":11.5,
        "winners":40907,
        "distributed":61400.5,
        "jackpot":0.0,
        "fixed":11.5,
        "categoryType":1,
        "gameType":"Normal"
      }
    ],
    "wagerStatistics":{
      "columns":1540071,
      "wagers":203493,
      "addon":[]
    }
  },
  "totalPages":1,
  "totalElements":4,
  "last":true,
  "numberOfElements":7,
  "sort":{
    "direction":"DESC",
    "property":"id.drawId",
    "ignoreCase":false,
    "nullHandling":"NATIVE",
    "descending":true,
    "ascending":false
  },
  "first":true,
  "size":10,
  "number":0
}

```

```

{"content":[{"gameId":5104,"drawId":2414,"drawTime":1647374400000,"status":"asd","drawBreak":1000000,"visualDraw":2414,"pricePoints":{"amount":0.5,"winningNumbers":{"list":[2,30,23,25,32],"bonus":[9]},"prizeCategories":[{"id":1,"divident":0.0,"winners":0,"distributed":23146.32,"jackpot":1009306.17,"fixed":0.0,"categoryType":0,"gameType":"Normal","minimumDistributed":0.0}, {"id":2,"divident":0.0,"winners":1,"distributed":39141.1,"jackpot":54849.51,"fixed":0.0,"categoryType":0,"gameType":"Normal"}, {"id":3,"divident":2500.0,"winners":10,"distributed":40000.0,"jackpot":0.0,"fixed":2500.0,"categoryType":1,"gameType":"Normal"}, {"id":4,"divident":50.0,"winners":205,"distributed":15250.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":5,"divident":50.0,"winners":8091,"distributed":40150.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":6,"divident":2.0,"winners":11146,"distributed":22200.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":7,"divident":2.0,"winners":19917,"distributed":10034.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":8,"divident":11.5,"winners":46420,"distributed":69643.0,"jackpot":0.0,"fixed":11.5,"categoryType":1,"gameType":"Normal"}]}, {"gameId":5104,"drawId":2413,"drawTime":1647201600000,"status":"results","drawBreak":1000000,"visualDraw":2413,"pricePoints":{"amount":0.5,"winningNumbers":{"list":[36,44,16,31,30],"bonus":[8]},"prizeCategories":[{"id":1,"divident":0.0,"winners":0,"distributed":354740.96,"jackpot":734655.21,"fixed":0.0,"categoryType":0,"gameType":"Normal","minimumDistributed":0.0}, {"id":2,"divident":0.0,"winners":0,"distributed":54049.51,"jackpot":0.0,"fixed":0.0,"categoryType":0,"gameType":"Normal"}, {"id":3,"divident":2500.0,"winners":17,"distributed":42500.0,"jackpot":0.0,"fixed":2500.0,"categoryType":1,"gameType":"Normal"}, {"id":4,"divident":50.0,"winners":271,"distributed":10550.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":5,"divident":50.0,"winners":706,"distributed":30000.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":6,"divident":2.0,"winners":11150,"distributed":22300.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":7,"divident":2.0,"winners":12000,"distributed":24160.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":8,"divident":11.5,"winners":2049325,"distributed":28493.0,"jackpot":0.0,"fixed":11.5,"categoryType":1,"gameType":"Normal"}, {"id":9,"divident":50.0,"winners":191,"distributed":1550.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":10,"divident":50.0,"winners":1571,"distributed":120550.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":11,"divident":50.0,"winners":191,"distributed":1550.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":12,"divident":2.0,"winners":10091,"distributed":16092.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":13,"divident":2.0,"winners":10441,"distributed":16092.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":14,"divident":11.5,"winners":40907,"distributed":61400.5,"jackpot":0.0,"fixed":11.5,"categoryType":1,"gameType":"Normal"}, {"id":15,"divident":11.5,"winners":40907,"distributed":61400.5,"jackpot":0.0,"fixed":11.5,"categoryType":1,"gameType":"Normal"}]}, {"gameId":5104,"drawId":2412,"drawTime":1646942400000,"status":"results","drawBreak":1000000,"visualDraw":2412,"pricePoints":{"amount":0.5,"winningNumbers":{"list":[23,16,17,27,40],"bonus":[16]},"prizeCategories":[{"id":1,"divident":0.0,"winners":0,"distributed":230075.17,"jackpot":519124.03,"fixed":0.0,"categoryType":0,"gameType":"Normal","minimumDistributed":0.0}, {"id":2,"divident":0.0,"winners":12,"distributed":35697.57,"jackpot":77099.7,"fixed":0.0,"categoryType":0,"gameType":"Normal"}, {"id":3,"divident":2500.0,"winners":17,"distributed":17500.0,"jackpot":0.0,"fixed":2500.0,"categoryType":1,"gameType":"Normal"}, {"id":4,"divident":50.0,"winners":191,"distributed":1550.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":5,"divident":50.0,"winners":1571,"distributed":120550.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":6,"divident":2.0,"winners":10091,"distributed":16092.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":7,"divident":2.0,"winners":10441,"distributed":16092.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":8,"divident":11.5,"winners":40907,"distributed":61400.5,"jackpot":0.0,"fixed":11.5,"categoryType":1,"gameType":"Normal"}, {"id":9,"divident":11.5,"winners":40907,"distributed":61400.5,"jackpot":0.0,"fixed":11.5,"categoryType":1,"gameType":"Normal"}]}, {"gameId":5104,"drawId":2411,"drawTime":1646769600000,"status":"results","drawBreak":1000000,"visualDraw":2411,"pricePoints":{"amount":0.5,"winningNumbers":{"list":[10,2,3,14,19],"bonus":[7]},"prizeCategories":[{"id":1,"divident":0.0,"winners":0,"distributed":191730.04,"jackpot":400261.16,"fixed":0.0,"categoryType":0,"gameType":"Normal","minimumDistributed":0.0}, {"id":2,"divident":0.0,"winners":0,"distributed":229646.37,"jackpot":40247.33,"fixed":0.0,"categoryType":0,"gameType":"Normal"}, {"id":3,"divident":2500.0,"winners":111,"distributed":225000.0,"jackpot":0.0,"fixed":2500.0,"categoryType":1,"gameType":"Normal"}, {"id":4,"divident":50.0,"winners":202,"distributed":10100.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":5,"divident":50.0,"winners":4041,"distributed":28600.0,"jackpot":0.0,"fixed":50.0,"categoryType":1,"gameType":"Normal"}, {"id":6,"divident":2.0,"winners":10091,"distributed":16092.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":7,"divident":2.0,"winners":10441,"distributed":16092.0,"jackpot":0.0,"fixed":2.0,"categoryType":1,"gameType":"Normal"}, {"id":8,"divident":11.5,"winners":40907,"distributed":61400.5,"jackpot":0.0,"fixed":11.5,"categoryType":1,"gameType":"Normal"}, {"id":9,"divident":11.5,"winners":40907,"distributed":61400.5,"jackpot":0.0,"fixed":11.5,"categoryType":1,"gameType":"Normal"}]}], "totalPages":1, "totalElements":4, "last":true, "numberOfElements":7, "sort":{"direction":"DESC", "property":"id.drawId", "ignoreCase":false, "nullHandling":"NATIVE", "descending":true, "ascending":false}, "first":true, "size":10, "number":0}
}

```

Στην γραμμή 102 στο `addOn` ήταν κενό και τώρα θα του βάλουμε κάποια στοιχεία που επιτρέπονται προφανώς. (Στην δεύτερη εικόνα, βρίσκεται και το `parsing` μας.)

```

    "categoryType": 1,
    "gameType": "Normal"
  },
  "wagerStatistics": {
    "columns": 2033304,
    "wagers": 359687,
    "addOn": [55, "aas", 34.3]
  }
},
{
  "gameId": 5104,
  "drawId": 2413
}

```

[illegible]

Παράδειγμα Εφαρμογής Σχετικά με την ανεπιτυχή αναγνώριση για το αρχείο newrange.txt): Στη γραμμή 99 θα βγάλουμε το ένα (") όπως φαίνεται παρακάτω: Στην δεύτερη εικόνα έχουμε και το parsing.

```
    ],  
    "wagerStatistics": {  
      "columns": 2033364,  
      "wagers": 359687,  
      "addOn": []  
    }  
  },  
  {
```

[illegible]

Παράδειγμα Εφαρμογής Σχετικά με την ανεπιτυχή αναγνώριση για το αρχείο newrange.txt): Στη γραμμή 38 θα βάλουμε ένα έξτρα κόμμα (trailing). Στην δεύτερη εικόνα έχουμε και το αντίστοιχο parsing.

```
    },
    {
        "id":2,
        "divident":93990.61,
        "winners":1,
        "distributed":39141.1,
        "jackpot":54849.51,
        "fixed":0.0,
        "categoryType":0,
        "gameType":"Normal"
    },
    {
        "id":3,
        "divident":2500.0,
        "winners":16,
        "distributed":40000.0,
        "jackpot":0.0,
        "fixed":2500.0,
        "categoryType":1,
        "gameType":"Normal"
    },
    ],
```

error syntax error in line : 38
error parse error in line : 38
{"content":{"gameId":5104,"drawId":2414,"drawTime":1647374480000,"status":"asd","drawBreak":1800000,"visualDraw":2414,"pricePoints":{"amount":0.5},"winningNumbers":{"list":[2,38,23,25,32],"bonus":[9]},"prizeCategories":[{"id":1,"divident":0.0,"winners":0,"distributed":253146.32,"jackpot":1809396.17,"fixed":0.0,"categoryType":0,"gameType":"Normal","minimumDistributed":0.0},{"id":2,"divident":93990.61,"winners":1,"distributed":39141.1,"jackpot":54849.51,"fixed":0.0,"categoryType":0,"gameType":"Normal"},,"vergmaw@DESKTOP-7111R33:~\$

Τέλος παραδειγμάτων εφαρμογής.

5. Σχόλια – Διευκρινήσεις σχετικά με την εργασία.

- Σε κάθε οντότητα της εργασίας, όπως τα στοιχεία: gameId, drawId, drawTime, status, drawBreak, visualDraw, pricePoints, winningNumbers, prizeCategories, wagerStatistics, ο συντακτικός αναλυτής θα τα αναγνωρίζει με την σειρά που αναγράφονται παραπάνω, και όχι διαφορετικά (καθώς στην εκφώνηση δεν ζητείται ρητά κάποια συγκεκριμένη σειρά).
- Το ίδιο θα ισχύει και για τα εσωτερικά τους στοιχεία, όπως είναι: list, bonus, id, dividend, winners, distributed, jackpot, fixed, categoryType, gameType, minimumDistributed, columns, wagers, addOn.
- Αντίστοιχα για το αρχείο newrange.txt ισχύει η σειρά των ακολούθων: direction, property, ignoreCase, nullHandling, descending, ascending.