运算指令测试记录

(黄泽昕-2019/8/15)

指令格式:#operator,out,in1,in2,...(长度最少为4,可自由拓展)

概述:1.operator可以是ADD/SUB/MUL/DIV四个指令

1. out可以为数组元素或变量(INT/DOUBLE),必须提供一个合理的存储位置
2. In可以有两个或两个以上(见连加连乘等测试)
3. In和out类型可以为TCP/PP/Joint类型的数组元素,但不能同时出现多种不同数组类型的元素(否则报错”类型不统一”,见测试10),以防止误操作
4. In可以是变量(INT/DOUBLE)或者直接数(见测试12),INT和DOUBLE之间的转换视out的类型而定(见测试11)
5. 除法除数为零(见测试6),命令调用失败
6. 指令不完整(见测试7),不能正确解析指令
7. 数组类型不含下标,所含下标越界(不在0-5之间),包含下标不完整(‘[‘或’]’缺失)测试

以下部分为详细数据测试

指令中出现的变量,前面必须先进行声明初始化

#var\_TCP\_tool1=111.222,2.0,0.8,3.1,0.0,1.59

#var\_TCP\_tool2=0.1,0.2,0.3,0.4,0.5,-0.5

#var\_PP\_pose1=0.1,0.2,0.3,0.4,0.5,-0.5

#var\_PP\_pose2=0.1,0.2,0.3,0.4,0.5,-0.5

#var\_JOINT\_joint1=0.1,0.2,0.3,0.4,0.5,-0.5

#var\_JOINT\_joint2=0.1,0.2,0.3,0.4,0.5,-0.5

#var\_INT\_val1=1

#var\_DOUBLE\_val2=0.1

1.测试1-正常使用加法:结果正确

#ADD, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[5]

将var\_TCP\_tool2第6个元素和var\_TCP\_tool1第6个元素相加放入var\_TCP\_tool1第一个元素中.正确(-0.5+1.59=1.09)

[ INFO] [1566724768.978396458]: Running Command Operator\_new

[ INFO] [1566724768.979094285]: Operating. Operation Type: ADD

[ INFO] [1566724768.979164669]: Target Value After Operation:[Variable tool1@TCP]: 1.09 2 0.8 3.1 0 1.59

[ INFO] [1566724768.979207208]: Thread 0: (14): Command line response: [SUCCESS]

1. 测试2-正常使用加法-连加:结果正确

1)(-0.5+1.59+0.2=1.29)

#ADD, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[5],var\_TCP\_tool2[1]

[ INFO] [1566724836.668812977]: Running Command Operator\_new

[ INFO] [1566724836.669601988]: Operating. Operation Type: ADD

[ INFO] [1566724836.669715232]: Target Value After Operation:[Variable tool1@TCP]: 1.29 2 0.8 3.1 0 1.59

[ INFO] [1566724836.669759633]: Thread 0: (14): Command line response: [SUCCESS]

2)(-0.5+1.59+0.2+111.222=112.512)

#ADD, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[5],var\_TCP\_tool2[1],var\_TCP\_tool1[0]

[ INFO] [1566726182.322200069]: Operating. Operation Type: ADD

[ INFO] [1566726182.322264908]: Target Value After Operation:[Variable tool1@TCP]: 112.512 2 0.8 3.1 0 1.59

[ INFO] [1566726182.322301494]: Thread 0: (14): Command line response: [SUCCESS]

1. 正常使用减法-连减:正确

-0.5-1.59-0.2-111.222=-113.512

#SUB, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[5],var\_TCP\_tool2[1],var\_TCP\_tool1[0]

[ INFO] [1566726347.572146124]: Running Command Operator\_new

[ INFO] [1566726347.572863041]: Operating. Operation Type: SUB

[ INFO] [1566726347.572915406]: Target Value After Operation:[Variable tool1@TCP]: -113.512 2 0.8 3.1 0 1.59

[ INFO] [1566726347.572948497]: Thread 0: (14): Command line response: [SUCCESS]

4.正常使用乘法-连乘:正确

1)-0.5\*1.59\*0.2\*111.222=-17.684298

#MUL, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[5],var\_TCP\_tool2[1],var\_TCP\_tool1[0]

[ INFO] [1566726516.598323810]: Running Command Operator\_new

[ INFO] [1566726516.599043751]: Operating. Operation Type: MUL

[ INFO] [1566726516.599103047]: Target Value After Operation:[Variable tool1@TCP]: -17.6843 2 0.8 3.1 0 1.59

[ INFO] [1566726516.599143507]: Thread 0: (14): Command line response: [SUCCES

2)-0.5\*1.59\*0.2\*111.222\*(-0.5)=8.842149

#MUL, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[5],var\_TCP\_tool2[1],var\_TCP\_tool1[0],var\_TCP\_tool2[5]

[ INFO] [1566726894.105776124]: Running Command Operator\_new

[ INFO] [1566726894.106492952]: Operating. Operation Type: MUL

[ INFO] [1566726894.106551423]: Target Value After Operation:[Variable tool1@TCP]: 8.84215 2 0.8 3.1 0 1.59

[ INFO] [1566726894.106585838]: Thread 0: (14): Command line response: [SUCCESS]

5.正常使用除法-连除:正确

-0.5/1.59/0.2/111.222/(-0.5)=0.0282736697

#DIV, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[5],var\_TCP\_tool2[1],var\_TCP\_tool1[0],var\_TCP\_tool2[5]

[ INFO] [1566727121.949740097]: Running Command Operator\_new

[ INFO] [1566727121.950731884]: Operating. Operation Type: DIV

[ INFO] [1566727121.950804696]: Target Value After Operation:[Variable tool1@TCP]: 0.0282737 2 0.8 3.1 0 1.59

[ INFO] [1566727121.950845910]: Thread 0: (14): Command line response: [SUCCESS]

1. 测试除法中除数含0

2.0/1.59/0.0

#DIV, var\_TCP\_tool1[0], var\_TCP\_tool1[1],var\_TCP\_tool1[5],var\_TCP\_tool1[4]

[ INFO] [1566727523.553169143]: Running Command Operator\_new

[ INFO] [1566727523.553910064]: Operating. Operation Type: DIV

[ERROR] [1566727523.553948170]: Divide By Zero Exception

[ERROR] [1566727523.554001380]: Thread 0: (14): Command line response: [FAILED]

[ INFO] [1566727523.554057883]: Sent command content to ground station: {"digitalArray": [{"seq": 1, "type": "uint", "value": 1, "name": ""}]}

[ INFO] [1566727523.554085588]: Thread 0: System pause! Waiting for manually confirm

7.测试指令不完整或者错漏

#AD, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[5]

ERROR: failed to parse line #AD, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[5]

Parser: job file invalid

[ERROR] [1566727876.484908558]: Failed to parse job file: ./doc/job\_file/C03010101040138000000.csv

[ERROR] [1566727876.484951524]: cmd\_call\_back: failed to schedule segment

8.测试数组元素的错误使用

1)元素下标越界

#ADD, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[6]

[ INFO] [1566731090.031271673]: Running Command Operator\_new

[ERROR] [1566731090.032089995]: Illegal Array Index (Index Not Between 0-5)

[ERROR] [1566731090.032154989]: Thread 0: (14): Command line response: [SYNTAX ERROR]

[ERROR] [1566731090.032222481]: There are syntax error in your job file. For saftty, this job will be stop

1. 元素下标越界

#ADD, var\_TCP\_tool1[0], var\_TCP\_tool2[5], var\_TCP\_tool1[11]

[ INFO] [1566731263.049074734]: Running Command Operator\_new

[ INFO] [1566731263.049074734]: Running Command Operator\_new

[ERROR] [1566731263.049788504]: Illegal Array Index

[ERROR] [1566731263.049849990]: Thread 0: (14): Command line response: [SYNTAX ERROR]

[ERROR] [1566731263.049891049]: There are syntax error in your job file. For saftty, this job will be stop

1. 元素下标不规范

#ADD, var\_TCP\_tool1[0, var\_TCP\_tool2[5], var\_TCP\_tool1[1]

[ INFO] [1566731892.378395437]: Running Command Operator\_new

[ERROR] [1566731892.379083519]: Array Parameter Does Not Contain Index

[ERROR] [1566731892.379134139]: Thread 0: (14): Command line response: [SYNTAX ERROR]

[ERROR] [1566731892.379169459]: There are syntax error in your job file. For saftty, this job will be stop

#ADD, var\_TCP\_tool10], var\_TCP\_tool2[5], var\_TCP\_tool1[1]

[ INFO] [1566731981.808822475]: Running Command Operator\_new

[ERROR] [1566731981.809711207]: Array Parameter Does Not Contain Index

[ERROR] [1566731981.809764869]: Thread 0: (14): Command line response: [SYNTAX ERROR]

[ERROR] [1566731981.809804894]: There are syntax error in your job file. For saftty, this job will be stop

4)元素不含下标

#ADD, var\_TCP\_tool1[], var\_TCP\_tool2[5], var\_TCP\_tool1[1]

[ INFO] [1566732047.370581205]: Running Command Operator\_new

[ERROR] [1566732047.371249369]: Illegal Array Index

[ERROR] [1566732047.371290911]: Thread 0: (14): Command line response: [SYNTAX ERROR]

[ERROR] [1566732047.371321895]: There are syntax error in your job file. For saftty, this job will be stop

#ADD, var\_TCP\_tool1, var\_TCP\_tool2, var\_TCP\_tool1

[ INFO] [1566732139.602208349]: Running Command Operator\_new

[ERROR] [1566732139.602912906]: Array Parameter Does Not Contain Index

[ERROR] [1566732139.602988468]: Thread 0: (14): Command line response: [SYNTAX ERROR]

[ERROR] [1566732139.603048344]: There are syntax error in your job file. For saftty, this job will be stop

1. 测试数组元素和变量做运算

1)0.1+1=1.1

#ADD, var\_TCP\_tool1[0], var\_TCP\_tool2[0], var\_INT\_val1

[ INFO] [1566732275.706902307]: Running Command Operator\_new

[ INFO] [1566732275.707587496]: Operating. Operation Type: ADD

[ INFO] [1566732275.707633320]: Target Value After Operation:[Variable tool1@TCP]: 1.1 2 0.8 3.1 0 1.59

[ INFO] [1566732275.707664965]: Thread 0: (14): Command line response: [SUCCESS]

2)0.1/0.1=1

#DIV, var\_TCP\_tool1[0], var\_TCP\_tool2[0], var\_DOUBLE\_val2

[ INFO] [1566732576.163138851]: Running Command Operator\_new

[ INFO] [1566732576.163825509]: Operating. Operation Type: DIV

[ INFO] [1566732576.163877424]: Target Value After Operation:[Variable tool1@TCP]: 1 2 0.8 3.1 0 1.59

[ INFO] [1566732576.163916206]: Thread 0: (14): Command line response: [SUCCESS]

3)存放位置是变量

0.1+1=1.1

#ADD, var\_DOUBLE\_val2, var\_TCP\_tool2[0], var\_INT\_val1

[ INFO] [1566734587.651490187]: Running Command Operator\_new

[ INFO] [1566734587.652184563]: Operating. Operation Type: ADD

[ INFO] [1566734587.652236980]: Target Value After Operation:[Variable val2@DOUBLE]: 1.1

[ INFO] [1566734587.652269438]: Thread 0: (14): Command line response: [SUCCESS]

1. 测试不同数组元素间做运算

1)#DIV,var\_TCP\_tool1[0],var\_PP\_pose1[0],var\_PP\_pose1[1]

[ INFO] [1566732691.726605931]: Running Command Operator\_new

[ERROR] [1566732691.727375869]: Variable Type Inconsistency

[ERROR] [1566732691.727427099]: Thread 0: (14): Command line response: [SYNTAX ERROR]

[ERROR] [1566732691.727464309]: There are syntax error in your job file. For saftty, this job will be stop

1. #DIV,var\_DOUBLE\_val2,var\_TCP\_tool1[0],var\_PP\_pose1[1]

[ INFO] [1566735651.365969821]: Running Command Operator\_new

[ERROR] [1566735651.366664121]: Variable Type Inconsistency

[ERROR] [1566735651.366717618]: Thread 0: (14): Command line response: [SYNTAX ERROR]

[ERROR] [1566735651.366753821]: There are syntax error in your job file. For saftty, this job will be stop

1. 测试变量和变量之间做运算(会进行强制类型转换)

1)1-0.1=0(存放位置是INT型)

#SUB,var\_INT\_val1,var\_INT\_val1,var\_DOUBLE\_val2

[ INFO] [1566733901.342654783]: Running Command Operator\_new

[ INFO] [1566733901.343350313]: Operating. Operation Type: SUB

[ INFO] [1566733901.343392620]: Target Value After Operation:[Variable val1@INT]: 0

[ INFO] [1566733901.343423275]: Thread 0: (14): Command line response: [SUCCESS]

2)1-0.1=0.9(存放位置是DOUBLE型)

#SUB,var\_DOUBLE\_val2,var\_INT\_val1,var\_DOUBLE\_val2

[ INFO] [1566733948.347268501]: Running Command Operator\_new

[ INFO] [1566733948.348100687]: Operating. Operation Type: SUB

[ INFO] [1566733948.348153313]: Target Value After Operation:[Variable val2@DOUBLE]: 0.9

[ INFO] [1566733948.348188500]: Thread 0: (14): Command line response: [SUCCESS]

1. 测试含有直接变量的运算

1)1-10=-9

#SUB,var\_DOUBLE\_val2,var\_INT\_val1,10

[ INFO] [1566734816.078950434]: Running Command Operator\_new

[ INFO] [1566734816.079638186]: Operating. Operation Type: SUB

[ INFO] [1566734816.079676762]: Target Value After Operation:[Variable val2@DOUBLE]: -9

[ INFO] [1566734816.079706362]: Thread 0: (14): Command line response: [SUCCESS]

1. 1+10+111.222=122.222

#ADD,var\_TCP\_tool1[0],var\_INT\_val1,10,var\_TCP\_tool1[0]

[ INFO] [1566734981.739820662]: Running Command Operator\_new

[ INFO] [1566734981.741677276]: Operating. Operation Type: ADD

[ INFO] [1566734981.741813442]: Target Value After Operation:[Variable tool1@TCP]: 122.222 2 0.8 3.1 0 1.59

[ INFO] [1566734981.741858201]: Thread 0: (14): Command line response: [SUCCESS]

2019年8月27日星期二新增测试并补充了类型检测

13.非数组变量后边带完整下标

#ADD,var\_INT\_val1[1],var\_INT\_val1[1],var\_INT\_val1[1]

或ADD,var\_INT\_val1,var\_INT\_val1[1],0

[ INFO] [1566905427.423465584]: Running Command Operator\_new

[ERROR] [1566905427.424658410]: Argument var\_INT\_translate1 is not array but has '[]'

[ERROR] [1566905427.424764342]: Thread 0: (11): Command line response: [SYNTAX ERROR]

[ERROR] [1566905427.424889174]: There are syntax error in your job file. For saftty, this job will be stop