**Test Generation Report**

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**1 Single Argument**

|  |  |  |
| --- | --- | --- |
| **executable** | **Failed case** | **explanation** |
| msdscript | All passed |  |
| msdscript0 | -37168 + -5559 | failed |
| msdscript1 | 17788 | failed |
| msdscript2 | All passed |  |
| msdscript3 | (28573 + 22567) \* 30875 \* -35658 | Values are not equal because there’s some problems with its print method |
| msdscript4 | All passed |  |
| msdscript5 | All passed |  |
| msdscript6 | All passed |  |
| msdscript7 | All passed |  |

**2 Two Arguments**

**2.1 Pass rates**

Compare the result of each executable with msdscript on 100 random test cases and calculate the pass rate.

Table 1. Pass rates of each executable in different modes

|  |  |  |  |
| --- | --- | --- | --- |
| **executable** | **Pass rate** | | |
| **interp** | **print** | **pretty\_print** |
| msdscript | 100% | 100% | 100% |
| msdscript0 | 0% | 0% | 0% |
| msdscript1 | 0% | 0% | 0% |
| msdscript2 | 77% | 100% | 93% |
| msdscript3 | 100% | 70% | 92% |
| msdscript4 | 100% | 100% | 89% |
| msdscript5 | 100% | 100% | 96% |
| msdscript6 | 100% | 100% | 82% |
| msdscript7 | 36% | 37% | 29% |

**2.2 Failed cases**

**msdscript0**

fails in any test cases

|  |  |  |
| --- | --- | --- |
| **mode** | **input** | **output** |
| interp | -3542 | exit\_code = 1, exec failed |
| print | 9270 | exit\_code = 1, exec failed |
| pretty\_print | 21344 | exit\_code = 1, exec failed |

**msdscript1**

random output for interp; print nothing in print and pretty-print mode

|  |  |  |
| --- | --- | --- |
| **mode** | **input** | **output** |
| interp | (-47511\*-34462) | 8207 |
| print | 3800 | “” |
| pretty\_print | -45582 | “” |

**msdscript2**

wrong interp on some cases; wrong indentation for LetExpr

|  |  |  |
| --- | --- | --- |
| **mode** | **input** | **output** |
| interp | (24648\*32796) | 57444 |
| print | N/A |  |
| pretty\_print | ((\_let HZs=(-45042\*-1815) \_in 9173)+(\_let Zqoi=(15911\*-9118) \_in (14435+-32479))) | (\_let HZs = -45042 \* -1815  \_in 9173) + \_let Zqoi = 15911 \* -9118  \_in 14435 + -32479 |

**msdscript3**

print “+” as “\*”; wrong indentation for LetExpr in pretty-print

|  |  |  |
| --- | --- | --- |
| **mode** | **input** | **output** |
| interp | (24648\*32796) | 57444 |
| print | (\_let oo=(-21831+((19024+(-45241+(37581\*3852)))+-40586)) \_in -59) | (\_let oo=(-21831\*((19024\*(-45241\*(37581\*3852)))\*-40586)) \_in -59) |
| pretty\_print | (-11858+((17663\*(((\_let ak=-18943 \_in 17241)+1655)+(\_let TTTLy=-34299 \_in 30043)))+-47780)) | -11858 + 17663 \* (((\_let ak = -18943  \_in 17241) + 1655) + \_let TTTLy = -34299  \_in 30043) + -47780 |

**msdscript4**

no parentheses in pretty\_print

|  |  |  |
| --- | --- | --- |
| **mode** | **input** | **output** |
| interp | N/A |  |
| print | N/A |  |
| pretty\_print | ((11140\*-39846)\*14130) | 11140 \* -39846 \* 14130 |

**msdscript5**

wrong indentation in pretty-print

|  |  |  |
| --- | --- | --- |
| **mode** | **input** | **output** |
| interp | N/A |  |
| print | N/A |  |
| pretty\_print | ((((((\_let oaPFJ=36268 \_in (-34595\*-13607))\*(\_let aqwwq=-45041 \_in -4582))\*25609)\*-37947)+-24928)+((34339\*-38469)+(30051\*(38054+(((36934\*33241)\*-28388)\*34434))))) | ((((\_let oaPFJ = 36268  \_in -34595 \* -13607) \* \_let aqwwq = -45041  \_in -4582) \* 25609) \* -37947 + -24928) + 34339 \* -38469 + 30051 \* (38054 + ((36934 \* 33241) \* -28388) \* 34434) |

**msdscript6**

no indentation for LetExpr in pretty-print

|  |  |  |
| --- | --- | --- |
| **mode** | **input** | **output** |
| interp | N/A |  |
| print | N/A |  |
| pretty\_print | (((3954+5736)+(\_let gXc=-38571 \_in 8421))+(-47043\*34272)) | ((3954 + 5736) + \_let gXc = -38571  \_in 8421) + -47043 \* 34272 |

**msdscript7**

can’t parse negative numbers

|  |  |  |
| --- | --- | --- |
| **mode** | **input** | **output** |
| interp | -27691 | 27691 |
| print | ((-33900\*-44298)+(\_let PTuJZ=(\_let ysuZ=(\_let Z=40255 \_in -46156) \_in -1450) \_in 40277)) | ((33900\*44298)+(\_let PTuJZ=(\_let ysuZ=(\_let Z=40255 \_in 46156) \_in 1450) \_in 40277)) |
| pretty\_print | (\_let B=(-30772+(3940\*(-34043+(390\*8144)))) \_in 9294) | \_let B = 30772 + 3940 \* (34043 + 390 \* 8144)  \_in 9294 |