**RQ1:**

bzr

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Release | Dynamic features  —  changes | Dynamic features  —  no changes | No dynamic features  —  changes | No dynamic features  —  no changes | P-values | OR |
| 1.2 |  |  |  |  | **<0.01** | 2.05 |
| 1.7 |  |  |  |  | 0.5246 | 1.38 |
| 1.14 |  |  |  |  | **<0.01** | 2.81 |
| 2.0.0 |  |  |  |  | **<0.01** | 3.45 |
| 2.1.0 |  |  |  |  | **<0.01** | 2.78 |
| 2.2.0 |  |  |  |  | **<0.01** | 2.82 |
| 2.3.0 |  |  |  |  | **<0.01** | 2.96 |
| 2.4.0 |  |  |  |  | **<0.01** | 4.77 |
| 2.5.0 |  |  |  |  | **<0.01** | 2.32 |
| 2.6.0 |  |  |  |  |  |  |

**RQ2:**

bzr

|  |  |  |
| --- | --- | --- |
| Release | M-W | Cohen |
| 1.2 | **<0.01** | -0.01 (negligible) |
| 1.7 | 0.3574 | 0.13 (negligible) |
| 1.14 | **<0.01** | 0.35 (small) |
| 2.0.0 | **<0.01** | 0.45 (small) |
| 2.1.0 | **<0.01** | 0.28 (small) |
| 2.2.0 | **<0.01** | 0.39(small) |
| 2.3.0 | **<0.01** | 0.41 (small) |
| 2.4.0 | **<0.01** | 0.45(small) |
| 2.5.0 | **<0.01** | 0.36(small) |
| 2.6.0 |  |  |

**RQ3:**

bzr

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Version ID  Dynamic Features | 1.2 | 1.7 | 1.14 | 2.0.0 | 2.1.0 | 2.2.0 | 2.3.0 | 2.4.0 | 2.5.0 |
| introspection | 0.67 | 0.40 | **<0.01** | **<0.01** | **<0.01** | **0.02** | **<0.01** | **<0.01** | **<0.01** |
| object changes | 0.50 | 0.93 | **0.01** | **<0.01** | 0.08 | **<0.01** | 0.234 | **0.03** | 0.88 |
| code generation | 0.11 | **<0.01** | 0.25 | 0.43 | 0.16 | 0.45 | 0.26 | 0.63 | 0.69 |
| library loading | 0.85 | 0.79 | 0.06 | 0.36 | 0.25 | 0.22 | 0.82 | 0.76 | 0.52 |

bzr

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dynamic features | 1.2 | 1.7 | 1.14 | 2.0.0 | 2.1.0 | 2.2.0 | 2.3.0 | 2.4.0 | 2.5.0 |
| hasattr | 0.951932 | 0.9976 | 0.840285 | 0.141599 | 0.3263 | 0.12304 | 0.213107 | 0.99302 | 0.00894 |
| getattr | 0.337707 | 0.9664 | 0.083741 | 0.000227 | 0.0340 | 0.11970 | 0.000717 | 0.02045 | 0.01893 |
| callable | 0.111963 | 0.9980 | 0.134591 | 0.388333 | 0.9217 | 0.98236 | 0.554203 | 0.66793 | 0.72730 |
| globals | 0.229572 | 0.9913 | 0.031214 | 0.909351 | 0.0122 | 0.04583 | 1.94e-05 | 0.98049 | 0.02169 |
| locals | 0.894296 | 0.9977 | 0.002078 | 0.824800 | 0.5947 | 0.37400 | 0.856014 | 0.99358 | 0.72201 |
| isinstance | 0.507920 | 0.6285 | 0.000489 | 0.044681 | 0.6986 | 0.44504 | 0.091196 | 0.00471 | 0.20096 |
| issubclass | 0.996470 | 0.9999 | 0.983951 | 0.344679 | 0.9794 | 0.44728 | 0.570093 | 0.99545 | 0.47974 |
| type | 0.988601 | 0.9983 | 0.989888 | 0.990582 | 0.9927 | 0.99425 | 0.992668 | 0.99998 | 0.99437 |
| vars | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| super | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| setattr | 0.984179 | 0.9971 | 0.453408 | 0.273674 | 0.8608 | 0.96567 | 0.765698 | 0.61490 | 0.85308 |
| delattr | 0.982085 | 0.9989 | 0.985379 | 0.980537 | 0.9862 | 0.98658 | 0.980349 | 0.99883 | 0.42305 |
| del | 0.840578 | 0.8532 | 0.019623 | 0.013566 | 0.1662 | 0.00733 | 0.578592 | 0.02859 | 0.94721 |
| eval | 0.994884 | 0.0484 | 0.180010 | 0.395573 | 0.3827 | 0.70303 | 0.324363 | 0.99798 | 0.99433 |
| exec | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| execfile | NA | 0.9989 | 0.991395 | 0.991701 | 0.9912 | 0.99457 | 0.991542 | 0.99850 | 0.99477 |
| X\_\_import\_\_ | 0.662978 | 0.9962 | 0.537502 | 0.400893 | 0.0645 | 0.12297 | 0.040934 | 0.99211 | 0.22637 |
| reload | 0.989096 | 0.9983 | 0.999181 | 0.997193 | 0.9931 | 0.99044 | 0.984386 | 0.99717 | 0.98940 |