**RQ1:**

numpy

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Release | Dynamic features—changes | Dynamic features  —  no changes | No dynamic features— changes | No dynamic features—  no changes | P-values | OR |
| 1.0.4 |  |  |  |  | <0.01 | 2.67 |
| 1.1.0 |  |  |  |  | <0.01 | 2.86 |
| 1.2.1 |  |  |  |  | <0.01 | 4.77 |
| 1.3.0 |  |  |  |  | <0.01 | 3.53 |
| 1.4.1 |  |  |  |  | <0.01 | 3.73 |
| 1.5.1 |  |  |  |  | <0.01 | 4.50 |
| 1.6.1 |  |  |  |  | 0.01 | 2.19 |
| 1.6.2 |  |  |  |  | <0.01 | 3.54 |

**RQ2:**

numpy

|  |  |  |
| --- | --- | --- |
| Release | M-W | Cohen d |
| 1.0.4 | <0.01 | 0.05 (negligible) |
| 1.1.0 | <0.01 | 0.28 (small) |
| 1.2.1 | <0.01 | 0.51 (medium) |
| 1.3.0 | <0.01 | 0.42(small) |
| 1.4.1 | <0.01 | 0.44(small) |
| 1.5.1 | <0.01 | 0.49 (small) |
| 1.6.1 | <0.01 | 0.33(small) |
| 1.6.2 | <0.01 | 0.55 (medium) |

**RQ3:**

numpy

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Version ID  Dynamic Features | 1.0.4 | 1.1.0 | 1.2.1 | 1.3.0 | 1.4.1 | 1.5.1 | 1.6.1 | 1.6.2 |
| introspection | 0.59 | 0.02 | <0.01 | <0.01 | <0.01 | <0.01 | 0.20 | <0.01 |
| object changes | 0.53 | 0.25 | 0.68 | 0.33 | 0.46 | 0.85 | 0.90 | 0.32 |
| code generation | 0.01 | 0.19 | 0.05 | 0.21 | 0.66 | 0.20 | 0.09 | 0.06 |
| library loading | 0.01 | 0.04 | 0.19 | 0.04 | 0.09 | <0.01 | <0.01 | 0.21 |