**计算器的测试用例**

**1.加法（+）**

**分析过程如下：**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 测试用例 | 被加数 | 加数 | 预期结果 | 真实结果 |
| Test1 |  | 1 | 1 | 1 |
| Test2 | 1 | 3 | 4 | 4 |
| Test3 | 0.5 | 5.35 | 5.85 | 5.85 |
| Test4 | 120 | 56 | 176 | 176 |
| Test5 | 29 | 369 | 398 | 398 |
| Test6 | -58 | 36 | -22 | -22 |
| Test7 | -63.25 | 58.94 | -4.31 | -4.31 |
| Test8 | 25 | 0 | 25 | 25 |

**2.减法（-）**

**分析过程如下：**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 测试用例 | 被减数 | 减数 | 预期结果 | 真实结果 |
| Test1 | 0 | 1 | -1 | -1 |
| Test2 | 10 | 5 | 5 | 5 |
| Test3 | 568 | 364 | 204 | 204 |
| Tset4 | 8.96 | 3.29 | 5.67 | 5.67 |
| Test5 | 78.569 | 97.3487 | -18.7797 | -18.7797 |
| Test6 | -256 | 300 | -556 | -556 |
| Test7 | -2.65 | -8.43 | 5.78 | 5.78 |
| Test8 | 100 | 0 | 100 | 100 |

**3.乘法（\*）**

**分析过分如下：**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 测试用例 | 被乘数 | 乘数 | 预计结果 | 真实结果 |
| Test1 | 0 | 1 | 0 | 0 |
| Test2 | 40 | 25 | 1000 | 1000 |
| Tset3 | 782 | 563 | 440266 | 440266 |
| Test4 | 12.64 | 45.23 | 571.7072 | 571.7072 |
| Test5 | 26 | 0 | 0 | 0 |
| Test6 | 46 | -87 | -4002 | -4002 |
| Test7 | -23 | 41 | -943 | -943 |
| Test8 | 2.36 | -4.58 | -10.8088 | -10.8088 |

**4.除法（/）**

**分析过程如下：**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 测试用例 | 被除数 | 除数 | 预计结果 | 真实结果 |
| Test1 | 0 | 10 | 0 | 0 |
| Test2 | 26 | 0 | 错误 | 错误 |
| Test3 | 40 | 56 | 0.714285714 | 0.714285714 |
| Test4 | 10 | 3 | 3.33333333 | 3.33333333 |
| Test5 | 8 | 3 | 2.6666667 | 2.66666667 |
| Test6 | 26 | -5 | -5.2 | -5.2 |
| Test7 | -6 | 20 | -0.3 | -0.3 |
| Test8 | 2.58 | 5.42 | 0.47601476 | 0.47601476 |

**除法里存在bug，如果结果为无限小数则保留小数点后八位，如果结果为0.几的无限小数保留九位有效数字。**

**5.正弦、余弦、正切**

**①正弦（sin）**

**分析过程如下：**

|  |  |  |  |
| --- | --- | --- | --- |
| 测试用例 | 数 | 预计结果 | 真实结果 |
| Test1 | 1 | 0.841470985 | 0.841470985 |
| Test2 | 0.5 | 0.479425539 | 0.479425539 |
| Test3 | -2 | -0.909297427 | -0.909297427 |
| Test4 | -0.25 | -0.247403959 | -0.247403959 |

**②余弦（cos）**

**分析过程如下:**

|  |  |  |  |
| --- | --- | --- | --- |
| 测试用例 | 数 | 预计结果 | 真实结果 |
| Test1 | 1 | 0.540302306 | 0.540302306 |
| Test2 | 0.5 | 0.877582562 | 0.877582562 |
| Test3 | -2 | -0.416145837 | -0.416145837 |
| Test4 | -0.25 | 0.968912422 | 0.968912422 |

**③正切（tan）**

**分析过程如下：**

|  |  |  |  |
| --- | --- | --- | --- |
| 测试用例 | 数 | 预计结果 | 真实结果 |
| Test1 | 1 | 1.55740773 | 1.55740773 |
| Test2 | 0.5 | 0.54630249 | 0.54630249 |
| Test3 | -2 | 2.18503986 | 2.18503986 |
| Test4 | -0.25 | -0.255341921 | -0.255341921 |

**6.常用对数、自然对数**

**①常用对数（ln）**

**分析过程如下：**

|  |  |  |  |
| --- | --- | --- | --- |
| 测试用例 | 数 | 预计结果 | 真实结果 |
| Test1 | 1 | 0 | 0 |
| Test2 | 0.5 | -0.693147181 | -0.693147181 |
| Test3 | -2 | 错误 | 错误 |
| Test4 | -0.25 | 错误 | 错误 |

**②自然对数（lg）**

**分析过程如下：**

|  |  |  |  |
| --- | --- | --- | --- |
| 测试用例 | 数 | 预计结果 | 真实结果 |
| Test1 | 1 | 0 | 0 |
| Test2 | 0.5 | -0.301029996 | -0.301029996 |
| Test3 | -2 | 错误 | 错误 |
| Test4 | -0.25 | 错误 | 错误 |

**7.平方、开二次方**

**①平方（^2）**

|  |  |  |  |
| --- | --- | --- | --- |
| 测试用例 | 数 | 预计结果 | 真实结果 |
| Test1 | 1 | 1 | 1 |
| Test2 | 0.5 | 0.25 | 0.25 |
| Test3 | -2 | 4 | 4 |
| Test4 | -0.25 | 0.625 | 0.625 |

**②开二次方（√）**

|  |  |  |  |
| --- | --- | --- | --- |
| 测试用例 | 数 | 预计结果 | 真实结果 |
| Test1 | 1 | 1 | 1 |
| Test2 | 0.25 | 0.5 | 0.5 |
| Test3 | -2 | 错误 | 错误 |
| Test4 | -0.25 | 错误 | 错误 |

**7.分数**

|  |  |  |  |
| --- | --- | --- | --- |
| 测试用例 | 数 | 预计结果 | 真实结果 |
| Test1 | 2 | 0.5 | 0.5 |
| Test2 | 0.5 | 2 | 错误 |
| Test3 | -4 | -0.25 | -0.25 |
| Test4 | -0.5 | -2 | 错误 |

**存在bug，当分母为小数时会出现报错情况。**