1. Yes, it uses relative error
2. The original code cannot handle when 0 < x < 1 and the code has been changed in the source file.
3. The code has been changed to use amount error

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Value** | **Amount error** | | **Relative error** | |
| **Square root** | **Loops** | **Square root** | **Loops** |
| 0.25 | 0.499756 | 10 | 0.500122 | 11 |
| 5000000000000 | 2236067.9776895183 | 53 | 2236339.3322949705 | 32 |
| 5000000 | 2236.0683762 | 33 | 2236.1737320 | 22 |
| 5 | 2.2354 | 12 | 2.2363 | 11 |
| 0.005 | 0.070103 | 10 | 0.070771 | 14 |
| 0.000005 | 0.0029347 | 10 | 0.0022347 | 19 |

1. When calculating the square roots of small numbers (less than 1), relative error leads to more accurate answers.
2. When calculating the square roots of large number, amount error leads to more accurate answers
3. When we use amount error, the precision means the maximum value of the error. When we use relative error, the precision means the maximum value of error/estimate value.