

## IEEE Compliance Report---Arithmetic Exception Handling

1. Platform:            Operation System0: Windows 10; IDE: Visual Studio 2015  
                         Operation System1:: MacOS 10.13.3; IDE: CodeBlock
2. Result
  - 1) Integer overflows: 47th or above Fibonacci number causes overflow, returns negative number.
  - 2) Integer divided by 0: throw an `ArithmeticExceptionHandling.exe`
  - 3) Float overflows: using Fibonacci numbers and the 1477th element is overflow.
  - 4) Floating point operations including plus, minus, multiplication and division of INF, NINF and NaN, function  $1/x$ ,  $\sin(x)$ ,  $\exp(x)$  with  $x$  equals to INF, NINF and NaN consistent with IEEE standard.
  - 5) The signed zero handling by performing given functions consistent with IEEE standard
  - 6) Observed behavior of floating point gradual underflow by choosing proper  $x$ ,  $y$ .