TRINITY COLLEGE DUBLIN, SCHOOL OF MATHEMATICS

Assignment #3, Module: MA5611

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1 Part 1

2 Part 2

From the fitting of the execution times (see the ./task2/fit.log file), the following values are obtained:
$a = 1.39018 \cdot 10^{-11}$
$b = 2.59096$
$c = 0.965511$
for the following form of the exponential:
f(x)=a*exp(x*b)+c

$$f(x) = a \cdot e^{x \cdot b} + c$$

and therefore:

$$f(x) = 1.39018 \cdot 10^{-11} \cdot e^{x \cdot 2.6} + 0.965511$$

from which the times for execution are, approximately (in seconds and days):

$$T(20) \sim 532579070245\ seconds \sim 16887.97\ years$$

$$T(50) \sim 4 \cdot 10^{45}\ seconds \sim 10^{38}\ years$$

$$T(20) \sim 114 \cdot 10^{100}\ seconds \sim 4 \cdot 10^{94}\ years$$

3 Part 3