MULTIMEDIA UNIVERSITY®

Faculty of Computing and Informatics

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TMA1201 Tutorial 07
T5 - Introduction to Complexity of an Algorithm

1. Prove that the function $f(x) = \dfrac{x^3 + 2x}{2x+1}$ is $\Omega(x^2)$.

2. Prove that the function $f(x) = 2x^3 + x^2 \log x$ is $O(x^3)$.

3. Find the theta notation in terms of n for time complexity of tatement x:=x+1 being executed in the following code fragement

   for $i = 1$ to n do
         for $j := i$ to n do
              $x := x + 1$