**Introduction assignment**

**The completion of these assignments is mandatory for this training. A VPN connection (choose option 1 “Tunnel all traffic”) is necessary to complete these assignments.** <https://www.tue.nl/en/our-university/library/how-to-use-the-library/digital-remote-access/>

1. Please fill out your name, id number, your major and the name of the course which this PRV is part of. If you are working in a group or pairs, make sure to fill out the information of all members of the group.

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| **Student** | Jiaqi Wang |
| Student ID number | 1986619 |
| Major | BAM + BCS |
| Course name |  |

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| **Student** |  |
| Student ID number |  |
| Major |  |
| Course name |  |

1. Choose one of the subjects mentioned in the announcement on the Canvas page of the course. In the assignments of our modules, you’re going to search for information on this subject so try to be specific and use at least 2-3 sentences to explain what your subject is in the box below.

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| **Subject** | **The selected subject is "the search of large prime numbers." This topic falls within the domain of number theory, specifically dedicated to the identification of substantial prime numbers. Prime numbers, defined as integers greater than 1 that are divisible only by 1 and themselves, hold significant importance in fields such as cryptography and computer science. The pursuit of large prime numbers typically employs specialized algorithms, distributed computing methods, and mathematical theorems, such as the Prime Number Theorem, to discern these pivotal mathematical entities.** |

1. What do you want to know about this subject? Describe in at least 3-4 sentences what you want to know about the subject and why it is a scientifically/societally important subject to research.

Example research description: *I want to know which communication strategies are effective to increase voter turnout among 18–25-year-olds in the Netherlands, because voting is an important right that helps build societies. It can help political parties develop communication strategies to increase their voter turnout among older adolescents and thus affect the laws and policies which shape our society.*

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| **Research description** | We are interested in delving into the field of the search for large prime numbers, primarily due to its critical role in ensuring online security, especially in the context of message encryption. As technology advances, computational speeds and capabilities increase, making it potentially easier to decrypt messages. To counter this, the pursuit of very large prime numbers becomes pivotal, as they are a fundamental component of secure encryption. This exploration is significant because it underscores the importance of large prime numbers in maintaining data and communication security in an evolving technological landscape. |