



Exploration on Numbers with Programming

(MATP1412)

Introduction	<p>Every day we are sending emails, text messages, voice messages, photos and videos. How are they related to prime numbers and divisibility?</p> <p>We will investigate number properties, encodings and their applications. How are they represented in a computer?</p> <p>Can we generate some random photos?</p>
Programme Type / Level	<p>Numbers and Arithmetic Workshop (Level 1) (Token-required)</p>
Instructor(s)	<p>Mr Wu Kai Chiu is a researcher in Mathematics and Computer Science. His interests include control theory, theoretical computer science, formal languages and symbolic computation. His research awards include The Best Paper in Conference Held in Cambridge and National Honourable Mentioned Thesis. He has been an organising committee member of various mathematical competitions. He was a teacher in mathematics and computer science in St. Paul's College.</p>
Pre-requisite	<p>The only requirement is basic computer background (using browsers).</p>
Target Participants	<p>P4 to P6 HKAGE student members Class size: 90</p>
Medium of Instruction	<ul style="list-style-type: none"> ❖ Online Learning: English supplemented with English Voice Over ❖ Face-to-face Tutorials: English. <p>Students might raise questions related to their online learning with the tutor and have discussion with other participants during the face-to-face tutorials.</p>
Certificate	<p>E-Certificate will be awarded to participants who have:</p> <ul style="list-style-type: none"> ❖ Attended the Final Assessment AND ❖ Satisfactory performance in the Final Assessment
Intended Learning Outcomes	<p>Upon completion of the course, students should be able to:</p> <ul style="list-style-type: none"> ● Perform Sieve of Eratosthenes to find primes; ● Convert numbers among various bases; ● Perform Euclidean Algorithm for finding greatest common divisor; ● Perform quick modular exponentiation; ● Compute Euler's function; ● Using sage to compute prime factorization and create own ciphers.
Duration	<p>No. of Hours for Online Learning : 2 hours per session, for a total of 12 hours</p> <p>No. of Hours for Face-to-face Tutorials : 3 hours per session, for a total of 6 hours</p> <p>No. of Hours for Final Assessment : 2 hours</p>
System Requirement	<p>Browser: IE 8 or later / Firefox 6 or later / Safari / Google Chrome; Display resolution: 1024 x 768</p>

Application Procedure



This programme is Programmes with No Screening

(After 26 Apr 2019)
First-come, first served.

There are no screening questions, written test or other screening methods for this type of programmes.

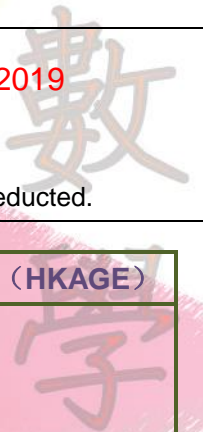
- Student members can select up to 5 programmes from a list of selection. Applicants have to state the priority when submitting the application. (1st priority, 2nd priority, 3rd priority, etc). 1 token is required for each programme
 (For programme list, please refer to the issue 14 of Gifted Gateway ([click here](#)));
- Application can only be submitted once. Once it is submitted, the priority and the programme selection cannot be changed;
- If a student member removes a programme from the application before the application deadline by withdrawal, the choice priority will remain unchanged. (For example: A student has selected three programmes and removed the programme with the 1st priority from the application. The choices of 2nd and 3rd priority will remain unchanged with no promotion in priority.);
- We will select the students based on the student's choice of priorities and a randomly generated selection by the computer system. If there is time clash between the applied programme and other programmes with offer, HKAGE will consider if the application will be accepted;
- Priority will be given to student members who have not completed the applied programmes;
- Student members should avoid applying programmes with time clash;
 The decision of HKAGE on the result of selection should be final.

Application Deadline

1st batch: 18 Apr, 2019 12:00 n.n.
 2nd batch: 30 May 2019 12:00 n.n.
(First come, first served)

Application Result Release Date

1st batch: 26 Apr 2019
 2nd batch: N.A.



Student members may withdraw from the programme on or before the deadline. Otherwise, the token will be deducted.


Schedule



Session	Date	Time	Venue (HKAGE)
1	15 -21 Jun	Online Learning	
2	22-28 Jun		
3	29 Jun -5 Jul		
Face-to-face Tutorial 1 (optional)	6 Jul	9:30 a.m.-12:30p.m.	Room 403
4	6-12 Jul	Online Learning	
5	13-19 Jul		
6	20-26 Jul		
Face-to-face Tutorial 2 (optional)	10 Aug	9:30 a.m.-12:30p.m.	Room 105

Final Assessment (Compulsory)	17 Aug	9:30 a.m.-11:30a.m.	Room 105
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In order to reserve a seat and prepare notes for you, an email will be sent to ask whether you will attend the tutorial(s) once you have been admitted to the programme.

Enquiries  For enquiries, please contact us at 3940 0101 after language selection, press "1".



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