

- Write a program to generate unique sets of email addresses based on one of the following regular expressions using C++.

Type	Regular expression*
3	[A-Za-z0-9]{4}\.[A-Za-z0-9]{5}@[A-Za-z]{5}\.(com net org)

(* Refer to <https://www.regular-expressions.info/quickstart.html> for the regular expression descriptions)

- Regular expressions (REs) are patterns to be followed.
 - **[A-Za-z0-9]** refers to alphabets and digits
 - **{4}** refers to repeat 4 times – note the different numbers in the REs
 - **\.** refers ‘.’ (because dot is a special character)
 - **(com|net|org)** refers to ‘com’ or ‘net’ or ‘org’
 - Example 1: the RE type 1 can be matched by “**abcd1.efgh2@pqrst.com**”
 - Example 2: the RE type 16 can be matched by “**aab5.ghh6@uvwxy.my**”
- Write the algorithm used to generate the data and describe the algorithm in the report.
- Generate 3 sets of data with the follow quantities:
 - Set A – 100 items
 - Set B – 100,000 items
 - Set C – 500,000 items
- Prepare 2 sets of search data as follows:
 - 10 items that could be found
 - 10 items that could not be found