RMIT UNIVERSITY

SCHOOL OF SCIENCE & TECHNOLOGY

EEET2482 – SOFTWARE ENGINEERING DESIGN

TUTORIAL AND LAB EXERCISES - WEEKS 1/2

Task 1: Write a C++ program that takes in one user input argument from the command line and checks if the user input argument is valid hexadecimal number and then displays the hexadecimal number to the console.

- If the incorrect number of user input arguments is detected, the program must exit with an error
- Hexadecimal values between 0x00 and 0xFF are valid, other values should be rejected
- The base can either be upper or lower case
- The hexadecimal digits can only contain upper case characters

Additional: Write more code to allow the program to accept up to three user input arguments

Task 2: Write a C++ program that accepts only two user input arguments from the command line and checks if both user input arguments are 8-bit binary numbers and then displays both binary numbers to the console

- If the incorrect number of user input arguments is detected, the program must exit with an error
- If either of the binary numbers is not 8 bits long, the program must exit with an error
- Binary number can only contain ‘0’ or ‘1’ letters
- The binary number must be displayed to the console with its base

Additional: Add extra code to convert both binary numbers to decimal (base 10), add them together and then display the result to the console.

Task 3: Write a C++ program that takes in up to 10 integer numbers as user input arguments from the command line and stores them into an array of type int. Print out each value to the console

- If there are no user input arguments or greater than 10 user input arguments, the program must exit with an error
- The program should check if each value in the user argument is a valid integer number
- A pointer should be used to access each element in the array to store the user input argument
- The same pointer should be used to output each value in the array to the console

Additional: Edit the code to take in up to 10 floating-point numbers as user input arguments from the command line and stores them into an array of type float. The pointer type will be need to be changed to float