Data Structures & Algorithms LAB
(BSCS-F18 Morning & Afternoon)
Lab # 9

Task #1

Implement a **recursive** C++ function which takes two integers **a** and **b** as arguments and returns the value of $\mathbf{a^b}$. The prototype of your function should be:

int power (int a, int b)

Task #2

Implement a **recursive** C++ function which takes two integers **a** and **b** as arguments and returns their **product**. The prototype of your function should be:

int product (int a, int b)

Hint: Think about repeated addition.

Task #3

Implement a **recursive** C++ function which takes two integers **num** and **den** as arguments and returns the **integer quotient** that will result when **num** is divided by **den**. The prototype of your function should be:

int quotient (int num, int den)

Hint: Think about repeated subtraction.

Task #4

Implement a **recursive** C++ function which takes a character (**ch**) and a positive integer (**n**) and prints the character **ch**, **n** times on the screen. The prototype of your function should be:

void printChar (char ch, int n)

For example, calling **printChar('Z',5)** should display **ZZZZZ** on screen.
***Note*:** You are NOT allowed to use any loop in your function.

Task #5

Implement a **recursive** C++ function which takes an array and its size (**n**) as parameters. This function should print the contents of the array in reverse order. The prototype of this function should be:

void printArrayReverse (int* arr, int n)

Also show the running of above all functions in main.