Assign4 report D1262015

**Hexadecimal Addition Report**

**Objective:** The purpose of this program is to perform addition on two hexadecimal numbers, taking into account possible overflow, and display the result in both hexadecimal and decimal formats.

**Key Components:**

1. **printChar Function:**
   * Responsible for printing a character 'n' times.
   * Used for formatting the output by printing spaces and dashes.
2. **hexCharToDecimal Function:**
   * Converts a single hexadecimal character to its decimal equivalent.
   * Handles both numeric and uppercase alphabetical characters.
3. **decimalToHexChar Function:**
   * Converts a decimal value to its hexadecimal character representation.
   * Handles values from 0 to 15.
4. **hex2decimal Function:**
   * Converts a hexadecimal string to its decimal value.
   * Utilizes the hexCharToDecimal function for each character in the input string.
5. **Main Function:**
   * Accepts two hexadecimal numbers as input.
   * Calculates the sum, considering the lengths of the input numbers and handling any carry generated during addition.
   * Prints the input numbers, the addition operation, the result, and the equivalent decimal sum.
   * Checks for overflow by examining the length of the sum and the value of its first character.
   * Outputs an overflow message if necessary.

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**Hexadecimal Multiplication Report**

**Objective:** The program aims to multiply two hexadecimal numbers, presenting the result in a formatted manner. Additionally, it displays the corresponding decimal multiplication.

**Key Components:**

1. **printChar Function:**
   * Prints a character 'n' times for formatting purposes.
2. **convertHexaToDecimal Function:**
   * Converts a hexadecimal string to its decimal equivalent.
3. **convertDecimalToHexa Function:**
   * Converts a decimal number to its hexadecimal representation.
4. **multiplyHexaNumbers Function:**
   * Multiplies two hexadecimal numbers and stores the result in a specified array.
5. **Main Function:**
   * Accepts two hexadecimal numbers as input.
   * Calls multiplyHexaNumbers to perform multiplication.
   * Prints the input numbers, multiplication operation, and result in a formatted manner.
   * Displays the equivalent decimal multiplication.