Introduction to Computing

CPIT 201 - Homework 1 - Due September 11

**Instructions:**

* Show all your steps to convert any numbers
* **Giving a final answer without showing the steps you follow = 0 point**

1. Convert the **decimal number to binary** using your own KAU ID. (1 point)

An example to generate your Decimal number based on your KAU ID:

* KAU ID: [1948246](https://lms.kau.edu.sa/webapps/gradebook/do/instructor/enterGradeCenter?course_id=_430162_1&cvid=fullGC)
* Reverse your KAU ID: 6428491
* Add number 2 in front of the reversed KAU ID: 26428491
* Now, split this number into two decimal digits

|  |  |  |  |
| --- | --- | --- | --- |
| 26 | 42 | 84 | 91 |

* Convert every two decimal digits to binary using 8 bits for each number (block)

|  |  |  |  |
| --- | --- | --- | --- |
| 00011010 | 00101010 | 01010100 | 01011011 |

1. Convert the **binary numbers to hexadecimal numbers** using your own KAU ID binary numbers form question 1. An example is shown blow. (1 point)

* KAU ID binary numbers:

|  |  |  |  |
| --- | --- | --- | --- |
| 00011010 | 00101010 | 01010100 | 01011011 |

* Converting every block to hexadecimal numbers

|  |  |  |  |
| --- | --- | --- | --- |
| 1A | 2A | 54 | 5B |

1. Convert the **binary numbers to octal numbers** using your own KAU ID binary numbers form question 1. An example is shown blow. (1 point)

* KAU ID binary numbers:

|  |  |  |  |
| --- | --- | --- | --- |
| 00011010 | 00101010 | 01010100 | 01011011 |

* Converting every block to octal numbers

|  |  |  |  |
| --- | --- | --- | --- |
| 32 | 52 | 124 | 133 |

1. Convert the **fractional** **decimal numbers to binary numbers** using your own KAU ID decimal numbers form question 1. An example is shown below. (1 point)

* KAU ID decimal numbers:

|  |  |  |  |
| --- | --- | --- | --- |
| 26 | 42 | 84 | 91 |

* Add a dot to every decimal number to make it fraction

|  |  |  |  |
| --- | --- | --- | --- |
| 0.26 | 0.42 | 0.84 | 0.91 |

* Converting every block to binary using **four digits only**

|  |  |  |  |
| --- | --- | --- | --- |
| 0.0100 | 0.0110 | 0.1101 | 0.1110 |

1. Ali says is greater than. Is he right? Explain. (1 point)

***Hint: use two ways to check your answer.***

***First: convert both numbers to decimal.***

***Second: convert both numbers to binary then to decimal.***