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Assignment 302

Question no 1

Perform the following arithmetic operations on given data, you can use indirect conversion or repeated division methods only. Convert the result into Caveman Number system.

Solution:

|  |  |  |
| --- | --- | --- |
| 5 | -4602031 | Reminder |
| 5 | 920406 | 1 |
| 5 | 184081 | 1 |
| 5 | 36816 | 1 |
| 5 | 7363 | 1 |
| 5 | 1472 | 3 |
| 5 | 294 | 2 |
| 5 | 58 | 4 |
| 5 | 11 | 3 |
|  | 2 | 1 |

**Convert this base 5 number to Caveman Number System**

**Question No.2**

Convert into the Grey Code.

**Solution:**

Convert the hexadecimal number to binary by replacing the each hexadecimal symbol with appropriate four bits binary number.

**Step 1:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Hexa Number | F | E | 4 | 5 | E | A |
| Binary number | 1111 | 1110 | 0100 | 0101 | 1110 | 1010 |

**Step 2:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Binary**  **Number** | 1111 | 1110 | 0100 | 0101 | 1110 | 1010 |
| **Gray Code** | 1000 | 1001 | 0110 | 0111 | 1001 | 1111 |

So**, the Grey Code is = 10001001011001111001111**

**Question No.2 (Part B)**

* Find the equivalence Excesss-7 code for the number

**Solution**

Convert octal number to Excess 7

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Octal Number | 7 | 6 | 3 | 7 | 2 |
| Adding 8 | 8 | 8 | 8 | 8 | 8 |
| We get | 15 | 14 | 11 | 15 | 10 |
| Convert into binary each bit | 1111 | 1110 | 1011 | 1111 | 1010 |

Equivalent Excess-7 code for the number is equal to (11111110101111111010)

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