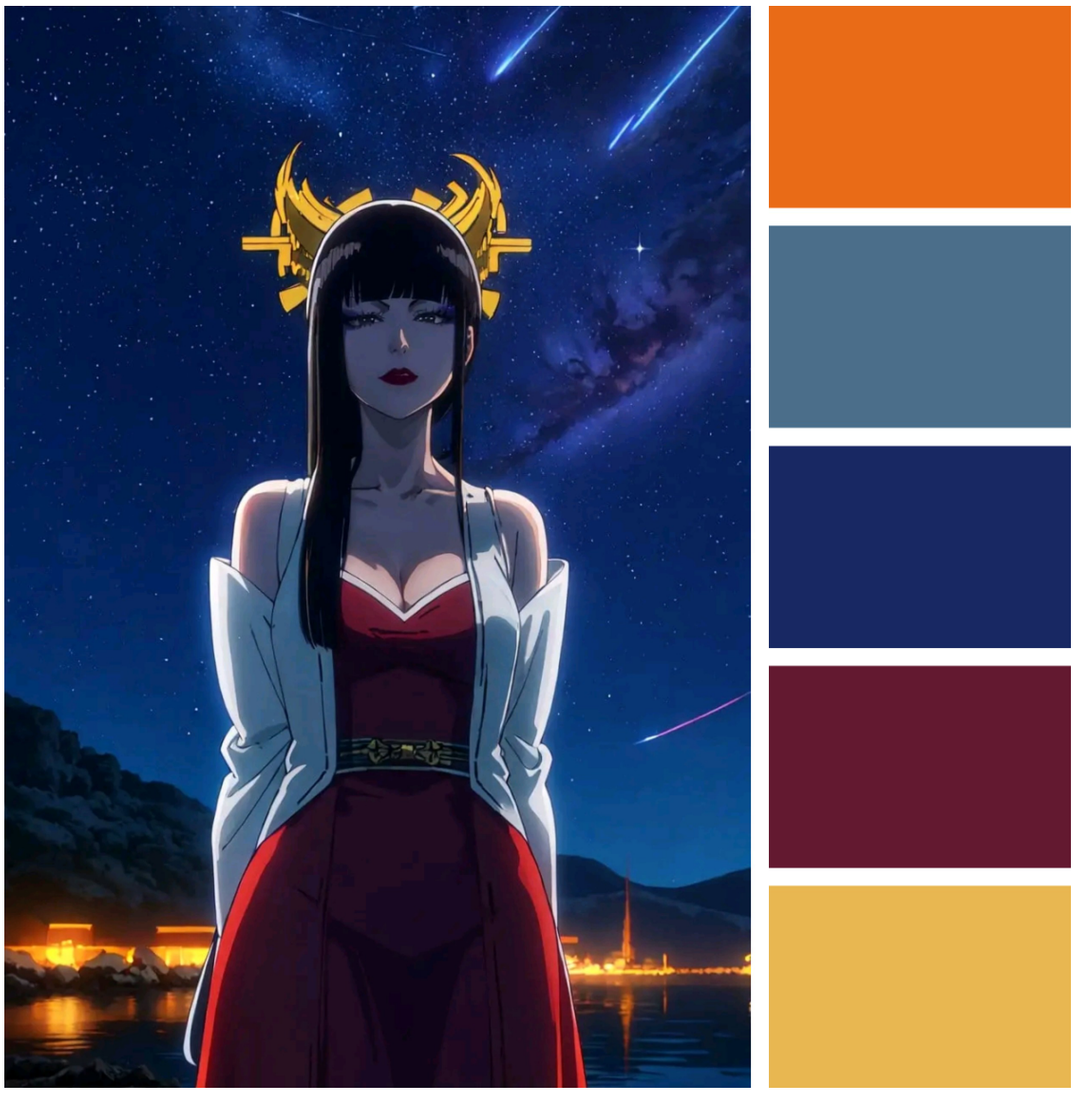
GRADING PERIOD (PUT AN X TO THE LEFT OF THE SPECIFIC GRADING PERIOD)								MODE OF SUBMISSION (PUT AN X TO THE LEFT OF THE SPECIFIC MODE/S)									
	PRELIM		MIDTERM	X	PREFINAL		FINAL	X	UPLOAD TO eLMS	X	SUBMIT VIA PAPER		MS TEAMS ASGMT		OUTLOOK EMAIL		
NAME: Chris Furd Apuyan								DATE: 05-04-25								SCORE	
BLOCK: BSCPE102A								STI COLLEGE LEGAZPI									
ACTIVITY NAME: 05 Performance Task 1								LESSON: Number Theory									

**Multiple deductions and deductions of varying magnitude can be given by the instructor if deemed necessary*

You may answer now on the space provided below:



	COLOR 1	COLOR 2	COLOR 3	COLOR 4	COLOR 5
HEX CODE	E96B17	4B6E8B	182863	631A31	E8B751
OCTAL	0351 0153 0027	0113 0156 0213	0030 0050 0143	0143 0032 0061	0350 0267 0121
BINARY	11101001 01101011 00010111	01001011 01101110 10001011	00011000 00101000 01100011	01100011 00011010 00110001	11101000 10110111 01010001

1. Color: E96B17

Hex: E9 6B 17

RGB: R=233, G=107, B=23

Octal:

R = 233 = 351

G = 107 = 153

B = 23 = 027

Octal: 0351 0153 0027

Binary:

R = 233 = 11101001

G = 107 = 01101011

B = 23 = 00010111

Binary: 11101001 01101011 00010111

2. Color: 4B6E8B

Hex: 4B 6E 8B

RGB: R=75, G=110, B=139

Octal:

R = 75 = 113

G = 110 = 156

B = 139 = 213

Octal: 0113 0156 0213

Binary:

R = 75 = 01001011

G = 110 = 01101110

B = 139 = 10001011

Binary: 01001011 01101110 10001011

3. Color: 182863

Hex: 18 28 63

RGB: R=24, G=40, B=99

Octal:

R = 24 = 030

G = 40 = 050

B = 99 = 143

Octal: 0030 0050 0143

Binary:

R = 24 = 00011000

G = 40 = 00101000

B = 99 = 01100011

Binary: 00011000 00101000 01100011

4. Color: 631A31

Hex: 63 1A 31

RGB: R=99, G=26, B=49

Octal:

R = 99 = 143

G = 26 = 032

B = 49 = 061

Octal: 0143 0032 0061

Binary:

R = 99 = 01100011

G = 26 = 00011010

B = 49 = 00110001

Binary: 01100011 00011010 00110001

5. Color: E8B751

Hex: E8 B7 51

RGB: R=232, G=183, B=81

Octal:

R = 232 = 350

G = 183 = 267

B = 81 = 121

Octal: 0350 0267 0121

Binary:

R = 232 = 11101000

G = 183 = 10110111

B = 81 = 01010001

Binary: 11101000 10110111 01010001

EXTRA CREDIT ITEMS

1. GCD(18, 14, 12) vs GCD\[(18, 14), 12]

We'll compute GCD using the Euclidean Algorithm:

GCD(18, 14):

* 18 mod 14 = 4
* 14 mod 4 = 2
* 4 mod 2 = 0 → GCD = 2

Now, GCD(2, 12):

* 12 mod 2 = 0 → GCD = 2

So,

* GCD(18, 14, 12) = 2
* GCD\[(18,14), 12] = 2

Observation: The order or grouping doesn'
t affect the result. GCD is associative.

2. LCM(8, 20, 14) vs LCM\[(8, 20), 14]

Use the formula:

LCM(a, b) = (a × b) / GCD(a, b)

* First, LCM(8, 20):
  * GCD(8, 20) = 4
  * LCM = (8 × 20) / 4 = 160 / 4 = 40

* Now, LCM(40, 14):
  * GCD(40, 14) = 2
  * LCM = (40 × 14) / 2 = 560 / 2 = 280

So,

* LCM(8, 20, 14) = 280
* LCM\[(8,20), 14] = 280

Observation: Like GCD, LCM is also associative.

3. Convert 11100111_2 to Hexadecimal

Group in 4s from right:

`11100111 → 1110 0111`

* 1110 = E
* 0111 = 7

Answer: `$E7_{16}$`

4. Convert $5E_{16}$ to Binary

Break into digits:

* 5 = `0101`
* E = `1110`

Answer: `$01011110_2$`

5. Convert 1001111_2 to Octal

Group in 3s from right:

`1 001 111 → 001 001 111` (pad left with 0s)

* 001 = 1
* 001 = 1
* 111 = 7

Answer**: `$117_8$`

6. Convert 745_8 to Binary

Each octal digit to 3-bit binary:

* 7 = `111`
* 4 = `100`
* 5 = `101`

Answer: `$111100101_2$`

7. Convert 6042_8 to Hexadecimal

Step 1: Convert each octal digit to 3-bit binary:

* 6 = 110
* 0 = 000
* 4 = 100
* 2 = 010

  → Combined: `110000100010`

Step 2: Group into 4s (from right):

`0001 1000 0100 010`

Pad left with zero to complete last group:

`0001 1000 0100 0010`

* 0001 = 1
* 1000 = 8
* 0100 = 4
* 0010 = 2

Answer: `$1842_{16}$`

8. Convert $C3A_{16}$ to Octal

Step 1: Hex to binary:

* C = 1100
* 3 = 0011
* A = 1010
  → `110000111010`

Step 2: Group into 3s:
`001 100 001 110 010` (pad left with zeros)

* 001 = 1
* 100 = 4
* 001 = 1
* 110 = 6
* 010 = 2

Answer: `$14162_{8}$`