CHAPTER 2

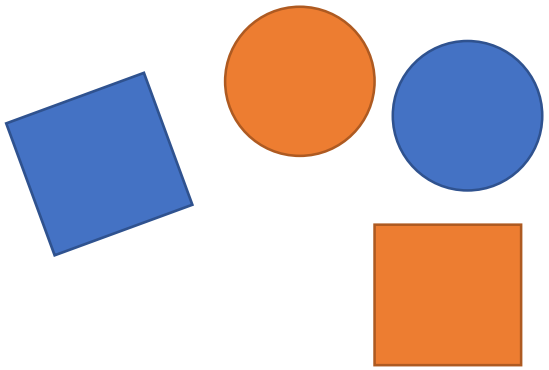
HOMEWORK

ENCODING

Process of encoding

1

Understand
all **possible values**
to your information

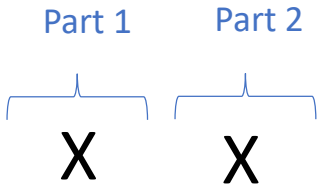


RULES

- ✓ The shape can be a square or circle
- ✓ The shape can be orange or blue

2

Define the encoding rules



***Part 1**- The color*

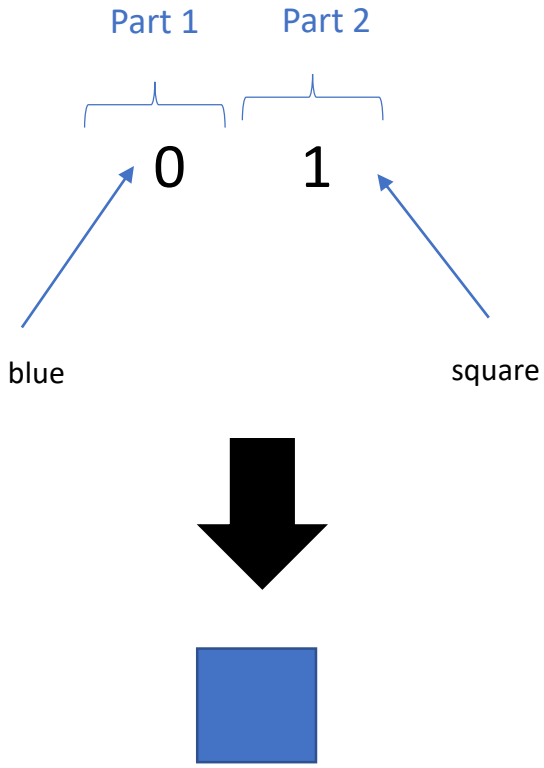
BIT	COLOR
0	BLUE
1	ORANGE

Part 2- *The shape*

BIT	SHAPE
0	CIRCLE
1	SQUARE

3

Apply the encoding rules



Define the encoding rules

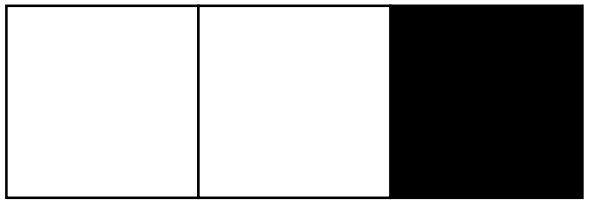


IMAGE RULES

- ✓ The image has 3 pixels
- ✓ Always 1 black pixel *(and only 1)*
- ✓ The black pixel can be anywhere

ENCODING RULES

Part 1

Meaning	Encoding in decimal	Encoding in binary
Color of pixel	Black : 0 White : 1	0 1

Define the encoding rules

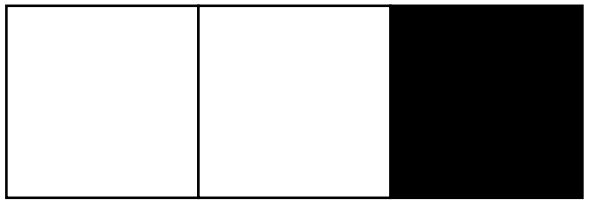


IMAGE RULES

- ✓ The image has 3 pixels
- ✓ Always 1 black pixel *(and only 1)*
- ✓ The black pixel only **first or last cells**

ENCODING RULES

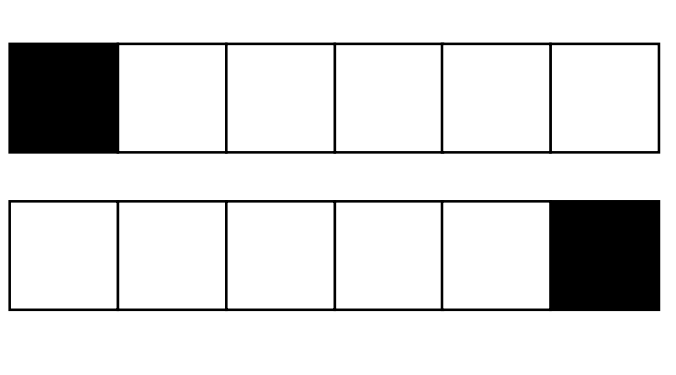
Part 1

Meaning	Encoding in decimal	Encoding in binary
Position of black pixel	First : 0 Last : 1	0 1

Define the encoding rules for this case

IMAGE RULES

- ✓ The image has 6 pixels
- ✓ Always 1 black pixel *(and only 1)*
- ✓ The black pixel can be only at first of last position



Only
2 options !

ENCODING RULES

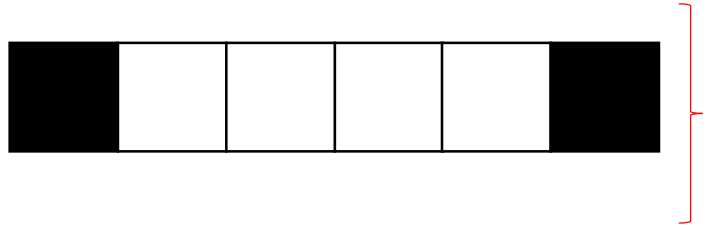
Part 1

Meaning	Encoding in decimal	Encoding in binary
Position of black pixel in row	First : 0 Last : 1	O 1

Define the encoding rules for this case

IMAGE RULES

- ✓ The image has 6 pixels
- ✓ Always 2 black pixel *(and only 2)*
- ✓ The black pixel can be only at first and last position



Only
1 options !

ENCODING RULES

Part 1

Meaning	Encoding in decimal	Encoding in binary
Color of pixel	Black : 0 White : 1	Error, because black pixel stand forever. (don't change position)

Define the encoding rules for this case

IMAGE RULES

- ✓ The image has 6 pixels
- ✓ All cells are black

Only
1 options !

ENCODING RULES

Part 1

Meaning	Encoding in decimal	Encoding in binary
Color of black pixel	Black : 0 White : 1	Can’t apply the encoding rule

Define the encoding rules for this case

IMAGE RULES

- ✓ The image has 6 pixels
- ✓ All cells are white

Only
1 options !

ENCODING RULES

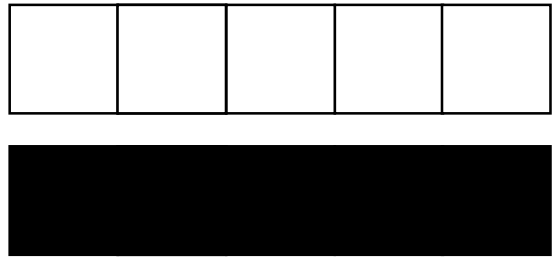
Part 1

Meaning	Encoding in decimal	Encoding in binary
Color of pixel	Black : 0 White : 1	Can’t apply the encoding rule

Define the encoding rules for this case

IMAGE RULES

- ✓ The image has 6 pixels
- ✓ All cells are white or black



Only
2 options !

ENCODING RULES

Part 1

Meaning	Encoding in decimal	Encoding in binary
Color of pixe	Black : 0 White : 1	0 1

Define the encoding rules for this case

IMAGE RULES

- ✓ The image has 5 pixels
- ✓ Always 3 black pixel *(and only 3)*
- ✓ The black pixel can be only at first, center and last position

Only
1 options !

ENCODING RULES

Part 1

Meaning	Encoding in decimal	Encoding in binary
Position of black pixel	In front of : 0 Midle : 1 behind : 2	Can’t apply the encoding rule

Define the encoding rules for this case

IMAGE RULES

- ✓ The image has 5 pixels
- ✓ Always 3 black pixel *(and only 3)*
- ✓ The black pixel can be anywhere

ENCODING RULES

	Meaning	Encoding in decimal	Encoding in binary
Part 1	Color of pixel	Black : 0 White : 1	0 1
Part 2	Position of black pixel	1 black Stay alone : 0 2 black Stay together : 1 3 black Stay together : 2	0 1 10

Define the encoding rules

IMAGE RULES

- ✓ The image has 3 pixels
- ✓ 1 to 3 black pixels
- ✓ The black pixels can be anywhere

	Meaning	Encoding in decimal	Encoding in binary
Part 1	Color of pixel	black : 0 White : 1	0 1
Part 2	Number of black pixel	1 black : 0 2 black : 1 3 black : 2	0 1 10
Part 3	Position of black pixel	Stay alone : 0 Stay together :1	0 1

Define the encoding rules

IMAGE RULES

- ✓ The image has 5 pixels
- ✓ 1 to 4 black pixels
- ✓ The black pixels can be anywhere

	Meaning	Encoding in decimal	Encoding in binary
Part 1	Color of pixel	Black : 0 White : 1	0 1
Part 2	Number of black pixel	1 black : 0 2 black : 1 3 black : 2	0 1 10
Part 3	Position of each black pixel	Stay alone : 0 Stay together : 1	0 1

Define the encoding rules

IMAGE RULES

- ✓ The image has 1 to 4 pixels
- ✓ 1 to 3 black pixels
- ✓ The black pixels shall be together

	Meaning	Encoding in decimal	Encoding in binary
Part 1	Color of pixel	Black : 0 White : 1	0 1
Part 2	Number of black pixel	1 black : 0 2 black : 1 3 black : 2	0 1 10
Part 3	Position of black pixel	In front : 0 Midle : 1 Behind : 2	0 1 10

Define the encoding rules

IMAGE RULES

- ✓ The image has 1 to 5 pixels
- ✓ 1 to 4 black pixels
- ✓ The black pixels shall be together

	Meaning	Encoding in decimal	Encoding in binary
Part 1	Number of pixel	1 pixel : 0 2 pixel : 1 3 pixel : 2 4 pixel : 3 5 pixel : 4	0 1 10 11 100
Part 2	Number of black pixel	1 black : 0 2 black : 1 3 black : 2 4 black : 3	0 1 10 11
Part 3	Position of black pixel	First : 0 Second : 1 Third : 2 4 th : 3 5 th : 4	0 1 10 11 100

Define the encoding rules

IMAGE RULES

- ✓ The image has 1 to 3 pixels
- ✓ 1 to 3 black pixels
- ✓ The black pixels shall be anywhere

	Meaning	Encoding in decimal	Encoding in binary
Part 1	Number of black pixel	1 pixel : 0 2 pixel : 1 3 pixel : 2	0 1 10
Part 2	Position of each black pixel	First : 0 Midle : 1 last : 2	0 1 10
Part 3	Position of black pixel	Alone : 0 Together : 1	0 1