

Objective: SWBAT identify and justify if two variables (a domain (x-values) and range (y-values)) create a function.

Warm Up:

Work through the warm-up you were given when you walked into class.

Objective: SWBAT identify and justify if two variables (a domain (x-values) and range (y-values)) create a function.

The table below shows that the letter A is coded into the letter Q, the letter B is coded into R, and so on. It also shows that the letter U is coded into the letter K. This code is an example of a *letter-shift code*. Can you see why? How would you use the code to write a message?

Unicode this word:

CQJX  
MATH

CARS  
SQHI

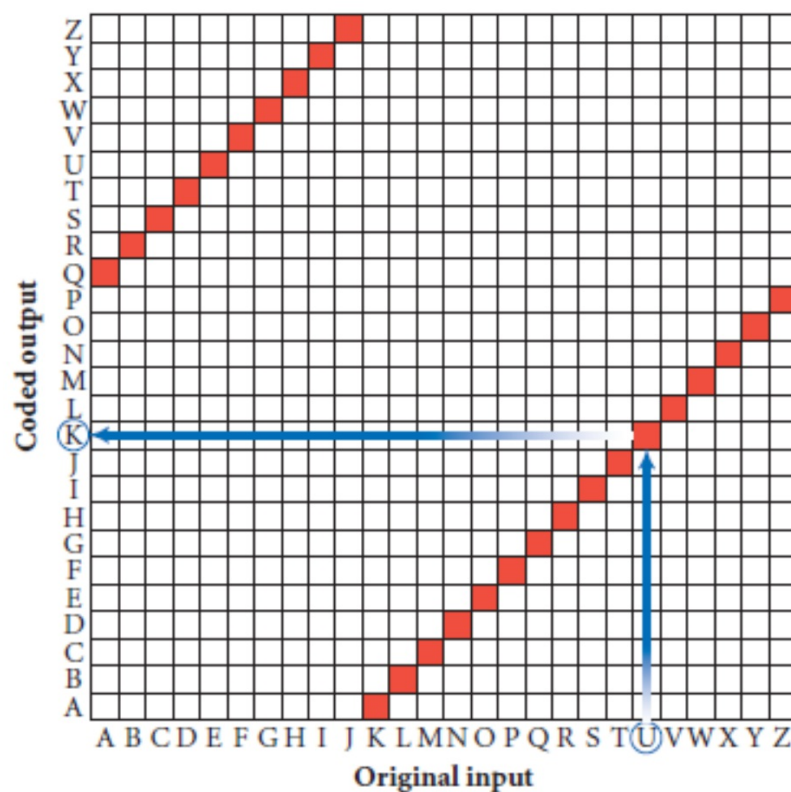
Original input	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Coded output	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

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Use the table to write your favorite movie in the secret code.

Trade with your neighbor and decode their word.

You can also represent the code with a grid. Note that the input letters run across (horizontally). To code a letter, look for the colored square directly above it. Then find the coded output by looking across to the letters that run up (vertically).



CORAL  
SEHQB

Use the grid to  
encode your  
favorite color.

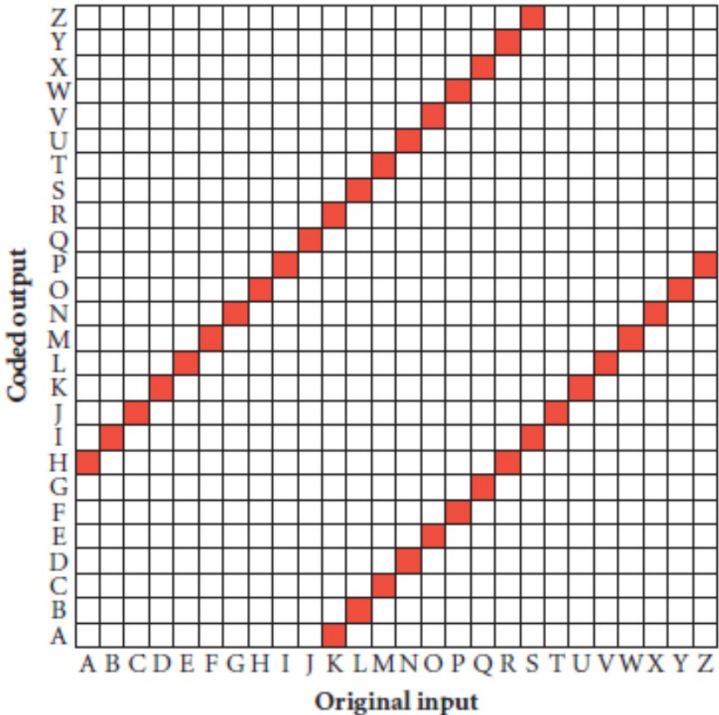
Trade and decode  
each other's

**Objective: SWBAT identify and justify if two variables (a domain (x-values) and range (y-values)) create a function.**

Use the grid to send your favorite TV show to your partner.

## Decode partner's

Did you partner  
successfully decode  
yours?



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How is the last grid different from the first?

The lines are in different places

The lines are overlapping

Code the word FUNCTION using both grids.

What did you discover?

With the 2<sup>nd</sup> grid there are multiple outputs for 1 input which makes it difficult to code.

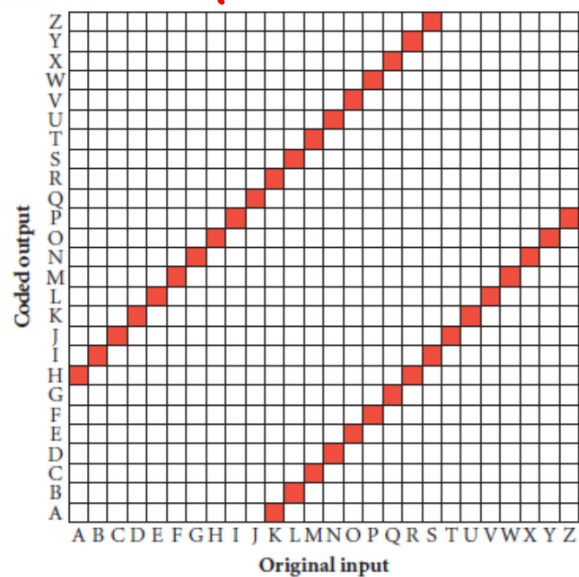
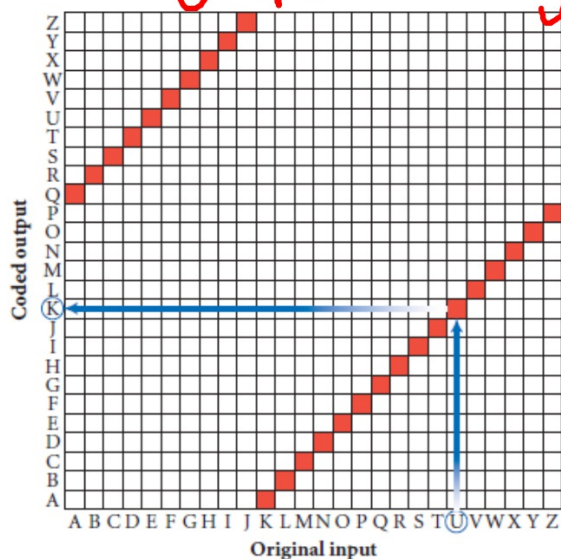
Objective: SWBAT identify and justify if two variables (a domain (x-values) and range (y-values)) create a function.

Relation: any relationship between two variables.

This is a function

*Every input can only have 1 output.*

This is not a function





Objective: SWBAT identify, denote, and justify if two variables (a domain and range) create a function.

Function: a relation where every input goes to only one output.

Domain: the input values (x)-values

Range: the output values (y)-values

input	output
1	2
2	3
3	2
4	3

Function

input	output
1	2
2	3
1	4
3	3

not a function