

National Coding Week

14th – 20th Sept 2020

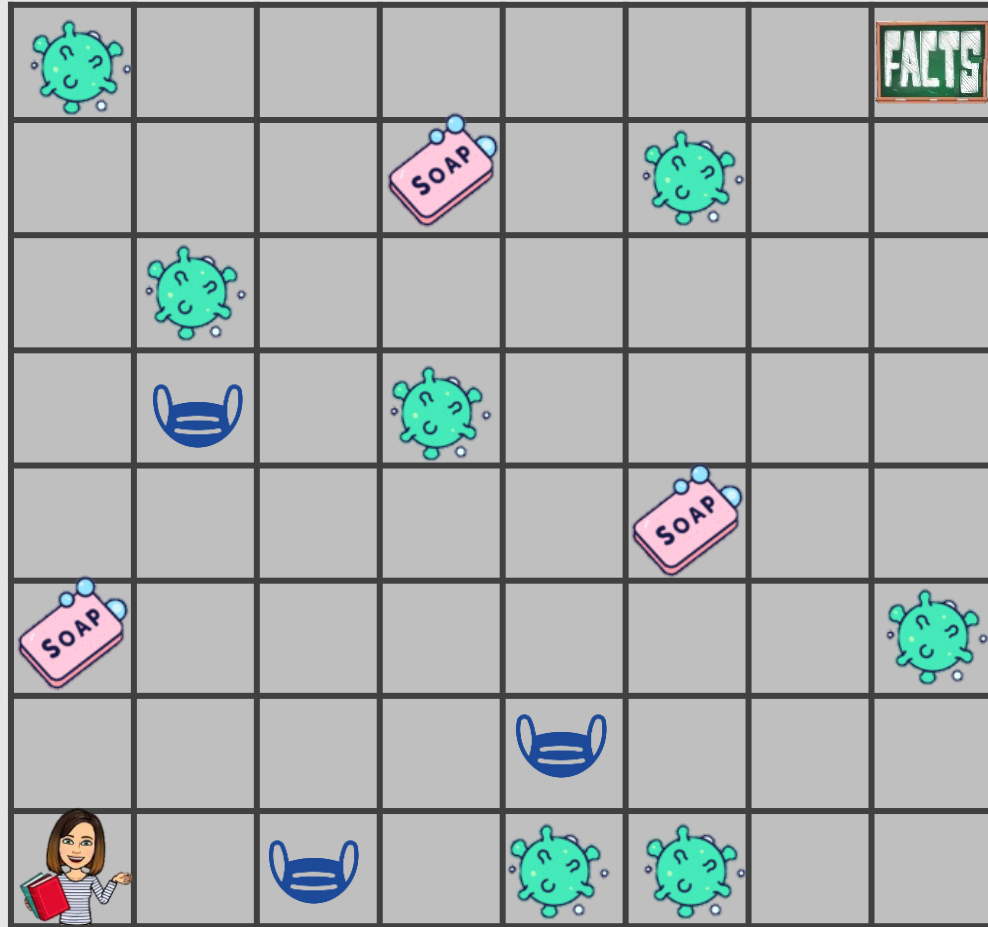
Want to complete some daily unplugged challenges to celebrate National Coding Week 2020?



#NationalCodingWeek

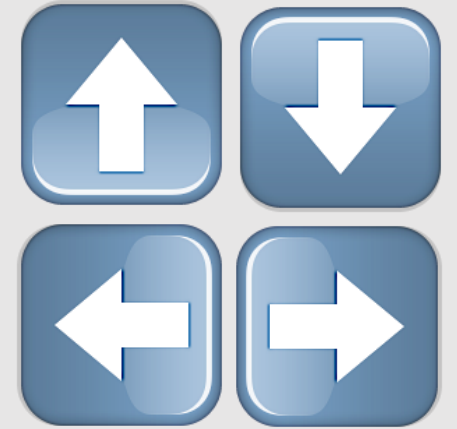


Can you help Hannah programme Alex to make it to the classroom? To get there safely Alex must collect a mask on the way, wash her hands and always have at least 1 square between her and the germs. How many moves does it take?

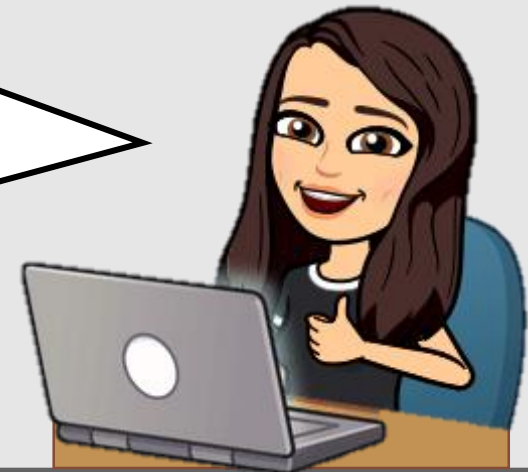


We can use these moves:

- One box up
- One box down
- One box left
- One box right

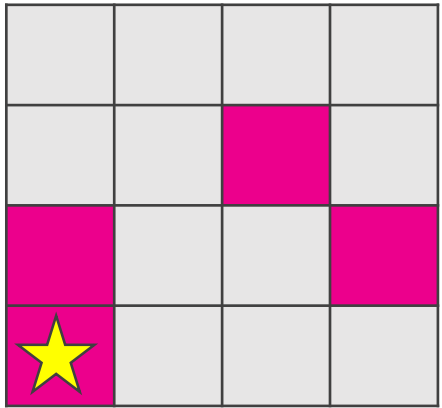












Let's keep our distance from those germs! Tweet your answer using #STEMGlasgow



Can you use the key below and help Claire 'debug' the programming errors? The starting point is the star. Tweet your answers using #STEMGlasgow

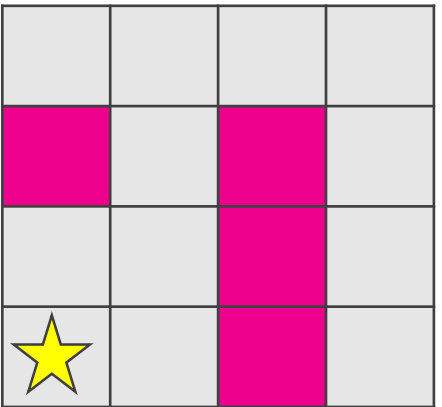
 Move One Square Right
  Move One Square Left
  Move One Square Up
  Move One Square Down
  Fill-In Square with Color













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Circle the errors in the lines of code then write the correct symbols in the boxes beneath



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Alex has been sent an important message. Can you break the binary code below and find out what it is? Tweet your answer using #STEMGlasgow

A	100 0001	H	100 1000	O	100 1111	V	101 0110
B	100 0010	I	100 1001	P	101 0000	W	101 0111
C	100 0011	J	100 1010	Q	101 0001	X	101 1000
D	100 0100	K	100 1011	R	101 1010	Y	101 1001
E	100 0101	L	100 1100	S	101 0011	Z	101 1010
F	100 0110	M	100 1101	T	101 0100	a	110 0001
G	100 0111	N	100 1110	U	101 0101	b	110 0010

Break the binary code and let me know what the important message is.



100 1011 – 100 0101 – 100 0101 – 101 0000
 101 1001 – 100 1111 – 101 0101 – 101 1010

100 0100 – 100 1001 – 101 0011 – 101 0100 – 100 0001 – 100 1110 – 100 0011 – 100 0101



The STEM Glasgow Sciences Framework was launched this term. How many times has it been downloaded? Complete the algorithm and reveal the number. Tweet your answer using

#STEMGlasgow

★												



My starting point is the star and I've completed the first 2 squares for you.

→	Move one square right
←	Move one square left
↑	Move one square up
↓	Move one square down
⚡	Fill in square with colour

1 ⚡	2 →	3 ⚡	4 →	5 ⚡	6 ↓
7 ⚡	8 ↓	9 ⚡	10 ←	11 ⚡	12 ←
13 ⚡	14 ↓	15 ⚡	16 ↓	17 ⚡	18 →
19 ⚡	20 →	21 ⚡	22 →	23 →	24 ⚡
25 ↑	26 ⚡	27 ↑	28 ⚡	29 ↑	30 ⚡
31 ↑	32 ⚡	33 →	34 →	35 ⚡	36 →
37 ⚡	38 →	39 ⚡	40 ↓	41 ⚡	42 ↓
43 ⚡	44 ←	45 ⚡	46 ←	47 ⚡	48 ↓
49 ⚡	50 ↓	51 ⚡	52 →	53 ⚡	54 →
55 ⚡	56 →	57 →	58 ⚡	59 →	60 ⚡
61 →	62 ⚡	63 ↑	64 ⚡	65 ↑	66 ⚡
67 ←	68 ⚡	69 ←	70 ⚡	71 ↑	72 ⚡
73 ↑	74 ⚡	75 →	76 ⚡	77 →	78 ⚡

#STEMGlasgow



Claire needs help with some image representation. The first couple of lines have been done for you. Can you complete the rest? Tweet your answer using #STEMGlasgow

- 1, 11, 1
- 1, 1, 9, 1, 1
- 1, 11, 1
- 2, 1, 7, 1, 2
- 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 2
- 2, 1, 2, 1, 1, 1, 2, 1, 2
- 2, 1, 3, 1, 3, 1, 2
- 3, 1, 5, 1, 3
- 4, 1, 1, 1, 1, 1, 4
- 4, 2, 1, 2, 4
- 4, 1, 1, 1, 1, 1, 4
- 3, 1, 5, 1, 3
- 2, 1, 3, 1, 3, 1, 2
- 2, 1, 2, 3, 2, 1, 2
- 2, 1, 1, 5, 1, 1, 2
- 2, 1, 1, 5, 1, 1, 2
- 1, 11, 1
- 1, 1, 9, 1, 1
- 1, 11, 1

Fill in the rows based on the numbers at the side and see what image it creates! The first number is how many blank squares you should leave, the next is how many you need to colour in.



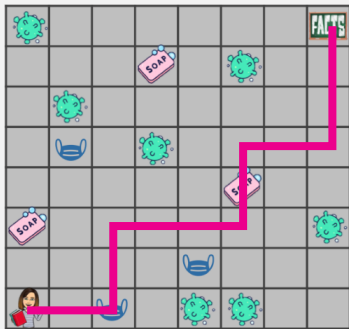
#STEMGlasgow



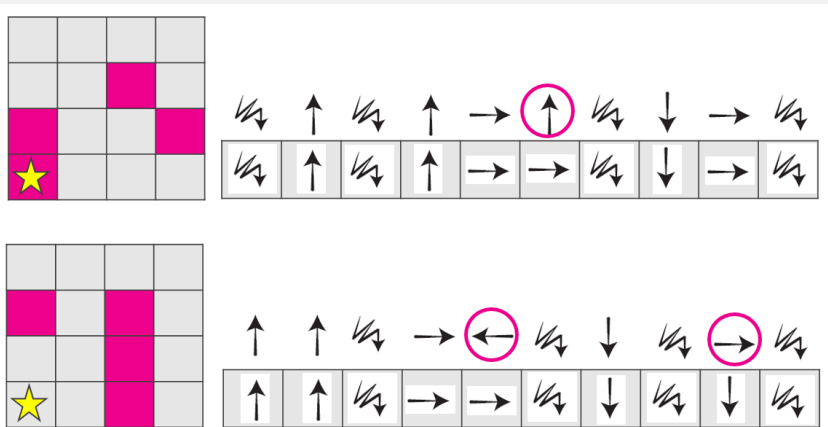
Answers

Challenge 1

A. 14 Moves



Challenge 2

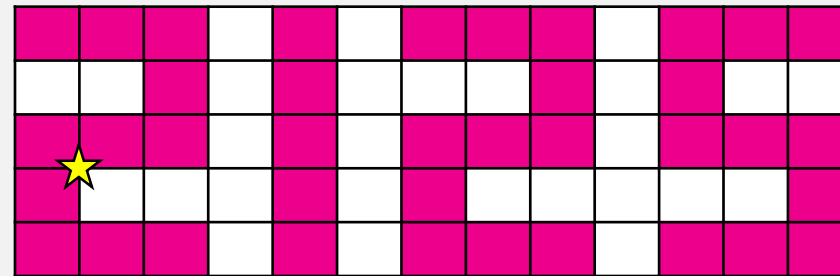


Challenge 3

A. *Keep your distance*

Challenge 4

A. 2125 downloads



Challenge 5

A. *Sand Timer*

