

1.1 Input/Output Machines p. 6

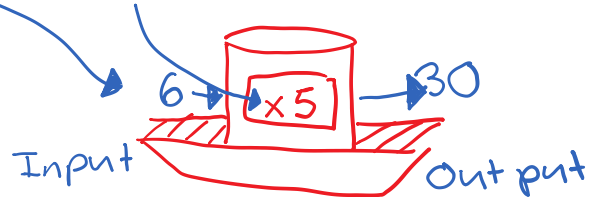
How an Input/Output machine works:

Any number input into this machine is used with the operation on the screen.

Eg. Any number put into this machine is multiplied by 5.

When you input 6, the output is 30.

When you input 9, the output is 45.



We can use an Input/Output table to organize our results:

Input	Output
\square	$\square \times 3$
1	$1 \times 3 = 3$
2	$2 \times 3 = 3$
3	$3 \times 3 = 9$
4	$4 \times 3 = 12$

Steps to creating table:

1. Select the operation for your input/output machine
2. Choose a number to go inside your machine
3. Use your machine to find the output number

We can also use an Input/Output machine to make a growing pattern

- This machine adds 8 to each input to get the output.
 - The **pattern rule** that relates the input to the output is: **Add 8** to the input
 - When each input increases by 1, the output increases by 1.
The pattern rule for the input is: Start at 1: Add 1 each time.
The pattern rule for the output is: Start at 9. Add 1 each time.

- This Input/Output machine **doubles** the input, then **adds 6**.
 - The **pattern rule** that relates the input to the output is: Multiply the input by 2, then add 6.
 - The pattern rule for input is: start at 2. Add 2 each time.
 - The pattern rule for output is: start at 10, add 4 each time.
 - * when each input increases by 2, the output increases by 4

Input	Output
1	9
2	10
3	11
4	12
5	13

Input	Output
2	10
4	14
6	18
8	22
10	26

Homework: p. 8 # 1, 2, 4, 5, 6, 7, 8 Bonus: 9.10

Name: _____

Div: _____

Date: _____

Task:

Go around the room to the different Input/Output Machines and Tables. Look to see that the number of station that you are at, matches with the table you fill out.

<p>A. Operation: _____</p> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 50%;">Input</th><th style="width: 50%;">Output</th></tr></thead><tbody><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></tbody></table>	Input	Output											<p>B. Operation: _____</p> <table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 50%;">Input</th><th style="width: 50%;">Output</th></tr></thead><tbody><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></tbody></table>	Input	Output														
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