THE COMMAND PATTERN IN ACTION: FUNCTIONAL CONSTRUCTS IN AN OBJECT-ORIENTED LANGUAGE

LAMBDA FUNCTIONS ARE ESPECIALLY
POWERFUL WHEN THE OUTPUT OF ONE
IS FED AS THE INPUT INTO THE NEXT

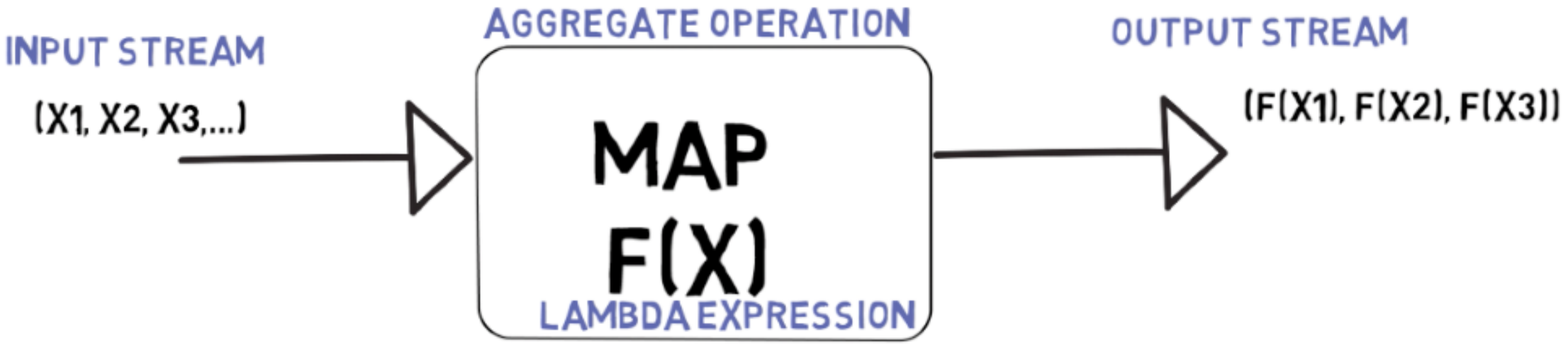
JAVA HAS ADDED EXACTLY THIS FUNCTIONALITY,
USING SOMETHING CALLED "AGGREGATE OPERATIONS"

FILTER, MAP AND FOREACH ARE STANDARD AGGREGATE OPERATIONS IN FUNCTIONAL PROGRAMMING

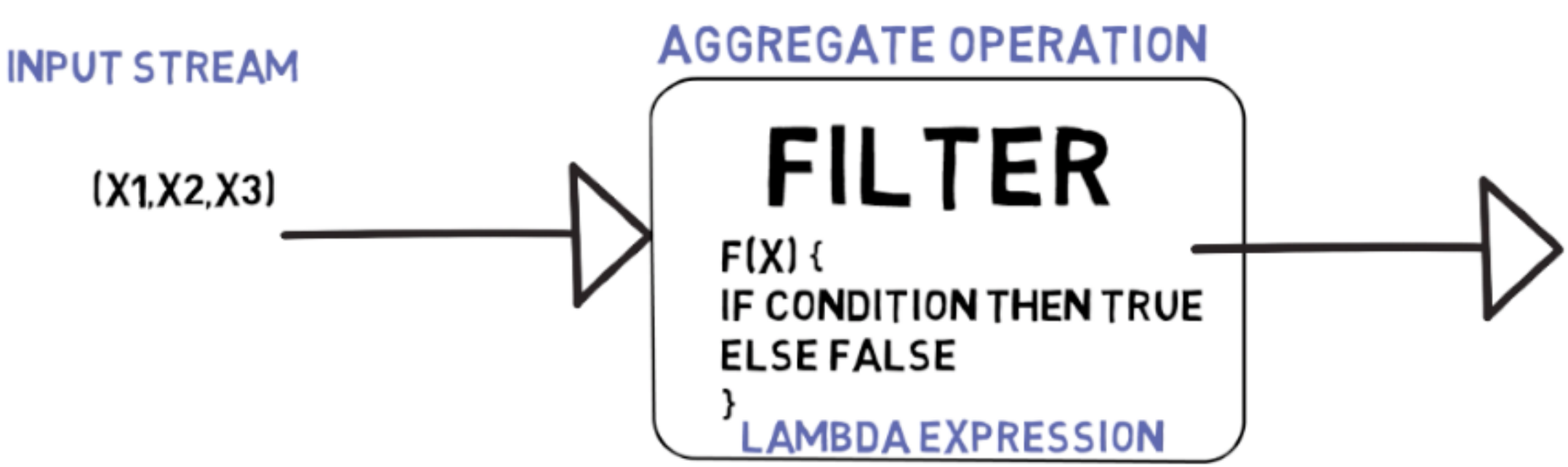
JAVA PROVIDES A SIMPLE WAY TO USE
THESE STANDARD FUNCTIONAL PROGRAMMING
OPERATIONS TO COLLECTIONS LIKE LISTS, MAPS
ETC

THE JAVA "STREAM" OBJECT CAN BE IMAGINED
AS A STREAM OF VALUES, WHERE EACH VALUE
IS BEING SUBJECTED TO AN OPERATION
LIKE MAP, FOREACH, FILTER ETC

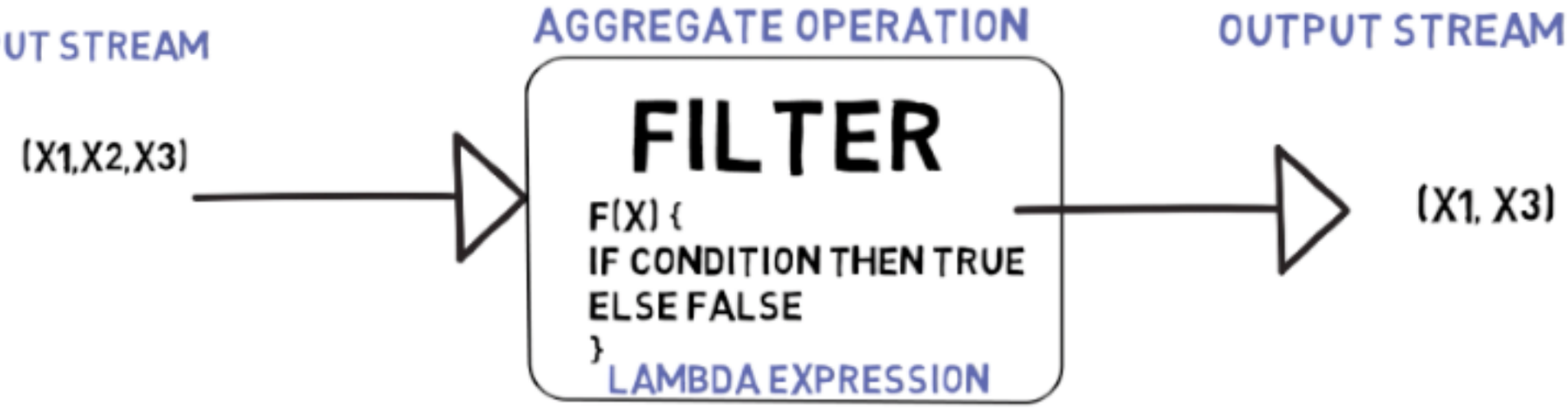
MAP IS AN AGGREGATE OPERATION THAT TAKES
A LAMBDA EXPRESSION, APPLIES IT TO
EVERY ELEMENT OF THE INPUT STREAM, AND
SENDS THE RESULTS OUT AS THE OUTPUT STREAM



FILTER IS AN AGGREGATE OPERATION THAT
TAKES IN A LAMBDA EXPRESSION THAT
ENCAPSULATES A CONDITION, APPLIES
IT TO EVERY ELEMENT OF AN INPUT STREAM;
EVERY ELEMENT THAT SATISFIES THE CONDITION
IS PLACED ON THE OUTPUT STREAM



FILTER IS AN AGGREGATE OPERATION THAT
TAKES IN A LAMBDA EXPRESSION THAT
ENCAPSULATES A CONDITION, APPLIES
IT TO EVERY ELEMENT OF AN INPUT STREAM;
EVERY ELEMENT THAT SATISFIES THE CONDITION
IS PLACED ON THE OUTPUT STREAM



FOREACH IS AN AGGREGATE OPERATION THAT TAKES A LAMBDA EXPRESSION AND APPLIES TO EACH ELEMENT OF AN INPUT STREAM, BUT DOES NOT PRODUCE AN OUTPUT STREAM