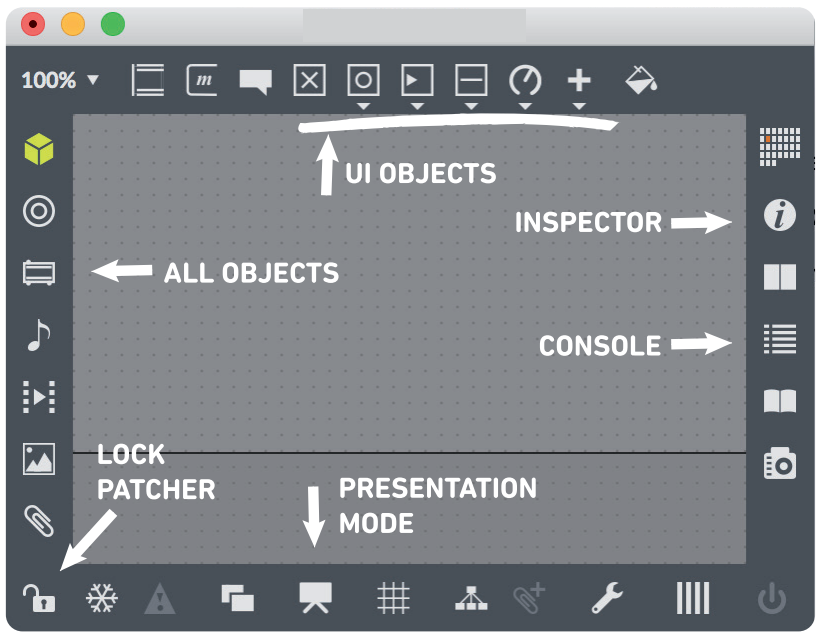
MAX CHEATSHEEEET 1

KEYBOARD SHORTCUTS!

CMD + CLICK	ANYWHERE IN PATCHERWINDOW TO LOCK IT
CMD + CLICK	ON UI OBJECT (e.g. SLIDER) TO EDIT ITS VALUE IN AN UNLOCKED PATCH
HELP	RIGHT CLICK ON AN OBJECT > HELP
n	CREATE A NEW OBJECT
b	CREATE A BANG (= bang)
m	CREATE A MESSAGEBOX (can be used as a debugger / monitor)
i / f	CREATE A NUMBOX OR A FLONUMBOX (= 1 / 1.)
t	CREATE A TOGGLE (= 1 / 0)

PATCHER WINDOW

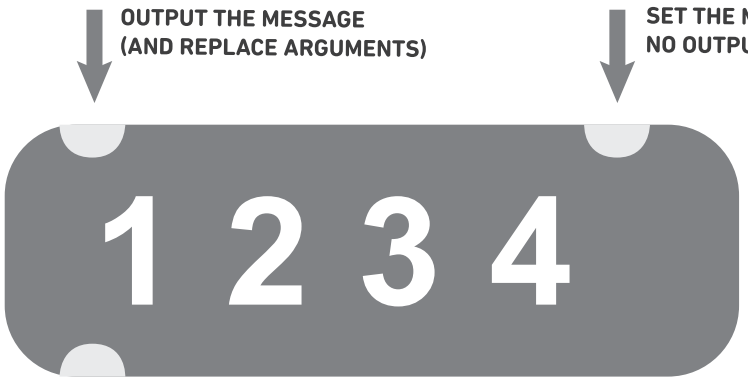


AN OBJECT'S ANATOMY n

- EVERY OBJECT HAS A **PARTICULAR FUNCTION**
- EVERY OBJECT HAS **INLETS AND OUTLETS**
- THE **LEFTMOST** INLET IS HOT – IT TRIGGERS THE OBJECT'S FUNCTION (AND THEREFORE OUTPUT)
- **ALL OTHER INLETS** ARE COLD – THEY'RE USED TO CHANGE ARGUMENTS (THE FUNCTION'S "SETTINGS")

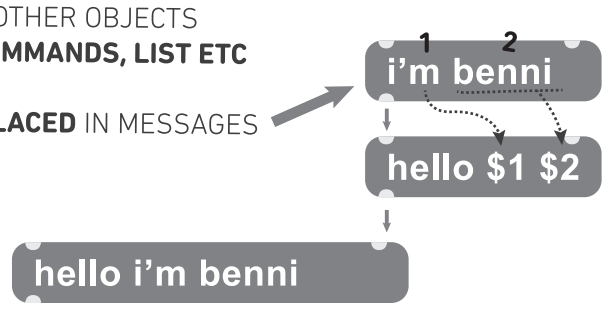
- ARGUMENTS CAN BE SET WHEN CREATING THE OBJECT → random 5
- ARGUMENTS CAN BE OVERWRITTEN 10 → random 5 (BUT MIND: IT WON'T CHANGE THE ARGUMENT IN THE OBJECT'S NAME!)

MESSAGE BOXES m

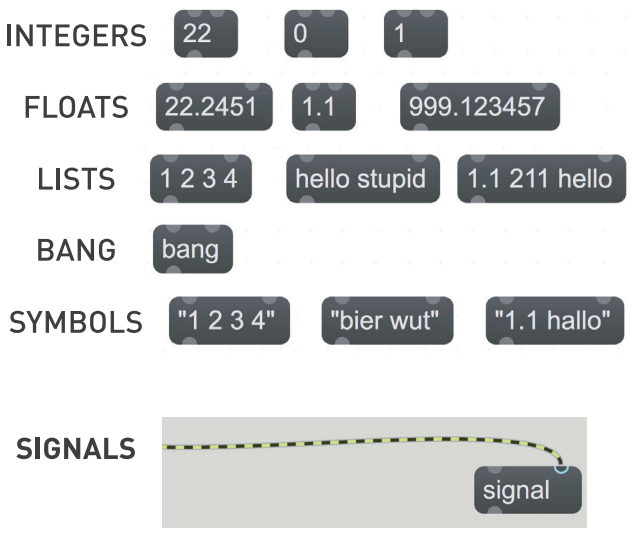


A MESSAGE BOX IS AN OBJECT, TOO!
IT CAN CONTAIN ANY DATA TYPE AND BE USED TO:
- > **DISPLAY THINGS** (= E.G. THE OUTPUT OF OTHER OBJECTS)
- > **SEND MESSAGES** TO OTHER OBJECTS
- > **FORMAT STRINGS, COMMANDS, LIST ETC**

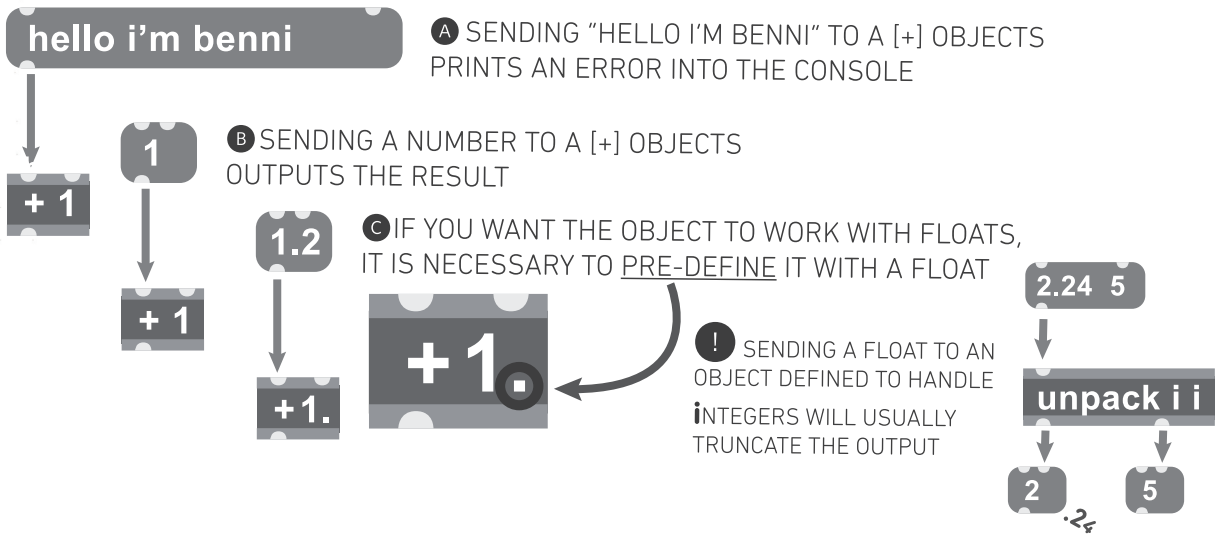
ARGUMENTS CAN BE REPLACED IN MESSAGES



"DATA TYPES"



MOST OBJECT "EXPECT" CERTAIN DATA TYPES (AND REACT ACCORDINGLY)



Ⓐ SENDING "HELLO I'M BENNI" TO A [+] OBJECTS PRINTS AN ERROR INTO THE CONSOLE

Ⓑ SENDING A NUMBER TO A [+] OBJECTS OUTPUTS THE RESULT

Ⓒ IF YOU WANT THE OBJECT TO WORK WITH FLOATS, IT IS NECESSARY TO PRE-DEFINE IT WITH A FLOAT

❗ SENDING A FLOAT TO AN OBJECT DEFINED TO HANDLE **i**NTEGERS WILL USUALLY TRUNCATE THE OUTPUT

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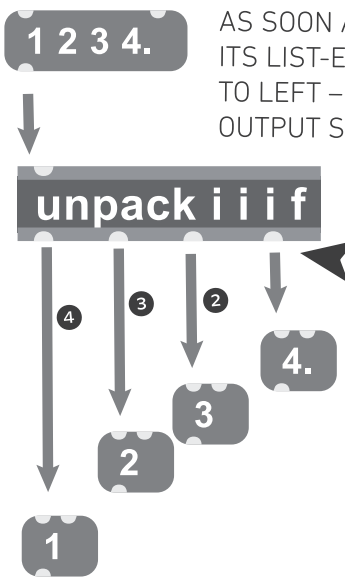
MAX CHEATSHEEEEET 2

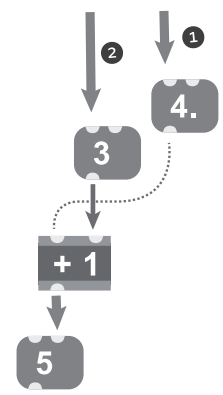
ORDER OF MESSAGES

THIS IS CRUCIAL!
BE AWARE, THAT MESSAGES ARE ALWAYS ORDERED:
RIGHT TO LEFT



AS SOON AS THE MESSAGE `1 2 3 4.` IS CLICKED / SENT TO THE [UNPACK] OBJECT, ITS LIST-ELEMENTS ARE EXPLODED / SEPERATED. THIS HAPPENS FROM RIGHT TO LEFT – SO THE RIGHT-MOST OUTLET OF [UNPACK] WILL BE THE FIRST TO OUTPUT SOMETHING

THIS IS IMPORANT TO KEEP IN MIND, BECAUSE THEREFORE THE RIGHT-MOST OUTPUT MAY BE THE FIRST TO **TRIGGER** A NEXT OPERATION:



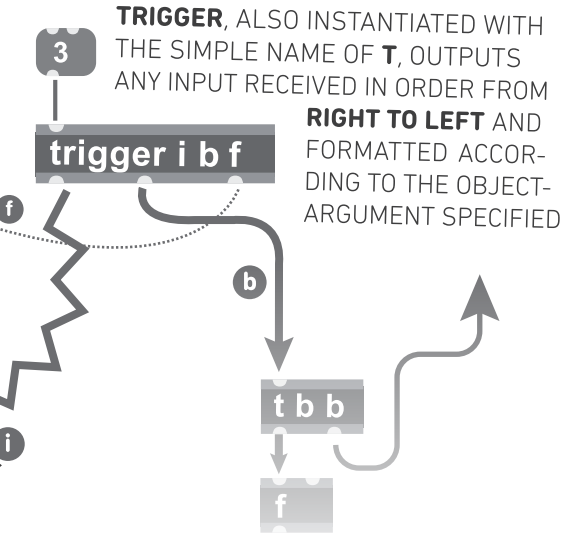
LOOKING AT THIS EXAMPLE, WE HAVE CREATED THE [+] OBJECT WITH AN ARGUMENT OF 1 – IT WILL THEREFORE ADD "1" TO ITS (LEFT) INPUT

1) WE SEND A "4" INTO THE **HOT** (LEFT) INLET – TRIGGERING THIS CALCULATION (4 + 1)

2) AFTER WE'VE TRIGGERED THE CALCULATION (=5), WE OVERWRITE THE OBJECTS ARGUMENT (1) WITH THE MESSAGE "3" INTO THE **COLD** (RIGHT) INLET

WE DON'T HOW EVER RETRIGGER THE CALCULATION!
OUR RESULT IS NOT 4+3 !

USE TRIGGERS!



TRIGGER, ALSO INSTANTIATED WITH THE SIMPLE NAME OF **T**, OUTPUTS ANY INPUT RECEIVED IN ORDER FROM **RIGHT TO LEFT** AND FORMATTED ACCORDING TO THE OBJECT-ARGUMENT SPECIFIED

SUMMING IT UP:

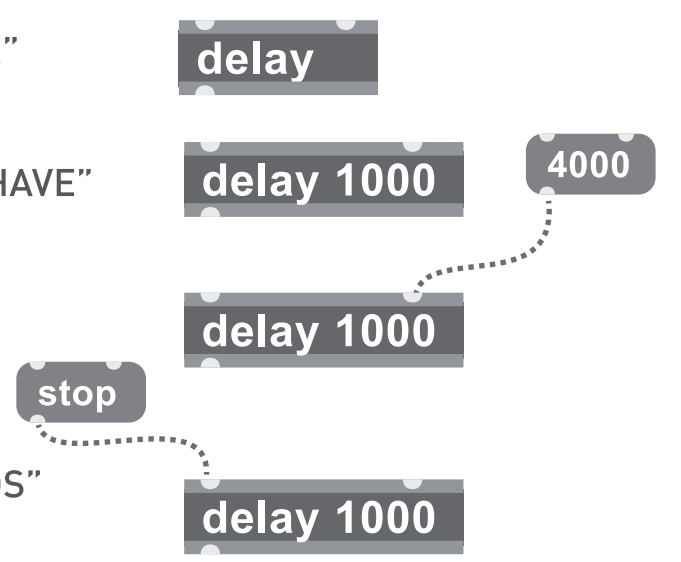
CREATING AND SETTING UP OBJECTS

THE **NAME** WE GIVE OBJECTS DEFINES "WHAT THEY ARE"
THINK: DELAY PEDAL – WE HOOK IT UP TO DELAY A GUITAR SIGNAL

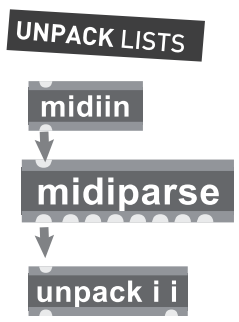
THE **ARGUMENTS** WE GIVE OBJECTS DEFINE "HOW THEY BEHAVE"
THINK: YOU SET THE DELAY TIME ON THE PEDAL BEFORE YOU PLAY

ARGUMENTS CAN USUALLY BE CHANGED **DYNAMICALLY**, ALTERING AN OBJECT'S BEHAVIOUR
THINK: MAYBE YOU WANT MORE DELAY LATER IN THE SONG

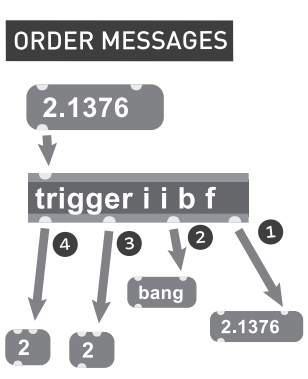
PARTICULAR MESSAGES ARE RESERVED AND MAY ACT AS "COMMANDS"
THINK: YOU DISENGAGE THE SWTICH ON THE PEDAL, CLEARING THE FEEDBACK WITHOUT CHANGING THE DELAY TIME

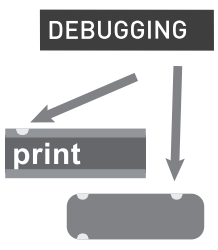


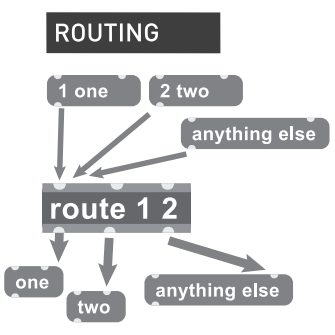
SOME RANDOM REMINDERS

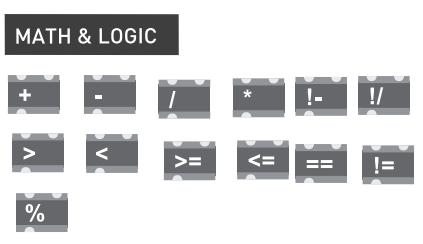


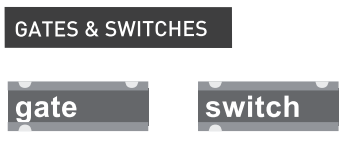
zl CHECK THE **ZL** OBJECTS!











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