

TD 1

prog fonctionnelle

exercice 1

inverse  $x = 1/x$   
 $a \rightarrow \text{double}$

concaténation  $c = [c]$   
 $\text{chan} \rightarrow [\text{chan}]$

second  $l = l!!1$   
 $[a] \rightarrow a$

moyenne  $a \ b \ c = (a+b+c)/3$   
 $\text{int} \rightarrow \text{int} \rightarrow \text{int} \rightarrow \text{double}$

moyenne2  $\text{notes} = (\text{sum notes}) / (\text{length notes})$   
 $[\text{int}] \rightarrow \text{double}$

exercice 2

$[\text{int}] \rightarrow \text{double}$

exercice 3

$[\text{double}] \rightarrow [\text{chan}]$



exercice 4

abs :: Int → Int

abs x =  
if x < 0  
then x \* -1  
else x

max :: Double → Double → Double

max x y =  
if x > y  
then x  
else y

second 2 :: [a] → a

second 2 l =  
if (length l) < 2  
then -1  
else l !! 2

moyenne 3 :: [Int] → Double

moyenne 3 l =  
if (length l) > 0  
then (sum l) / (length l)  
else -1