# Correction du partiel

22 octobre 2002

## Exercice 1

Exercice 1

```
# let rec f =
     fun m n -> if n=0 then m else 2 + f m (n-1) ;;
val f : int -> int -> int = <fun>

(* elle calcule (m,n) -> m + 2*n *)
let f2 = fun m n -> m + 2*n ;;
```

## Exercice 2

Exercice 2

```
# sqrt (float_of_int 5) ;;
- : float = 2.2360679775

# let c = 0 in (fun c -> if c='c' then "oui" else "non");;
- : char -> string = <fun>

# fun c -> fun y -> c ^ (y c) ;;
- : string -> (string -> string) -> string = <fun>

# let g = List.hd in fun l -> (g l)::l ;;
- : 'a list -> 'a list = <fun>
```

## Exercice 3

Exercice 3

```
# let rec nettoyer l = match l with
      []   -> []
    | e::m -> if (e="") then nettoyer m else e::(nettoyer m) ;;
```

```


# let rec nettoyer = fun l ->
    if l=[] then [] else
      let h= List.hd l in
        let t= nettoyer (List.tl l) in
          if h="" then t else (h::t) ;;

# let nettoyer = List.filter (fun s -> s<>"") ;;
```

## Exercice 4

Exercice 4

```
# let longueurs =
  fun l -> List.map (fun s -> (s,String.length s)) (nettoyer l);;
```

## Exercice 5

Exercice 5

```
# let rec nbdiv n a = if (a<=1) then 1
     else (if (n mod a = 0) then 1 else 0) + nbdiv n (a-1) ;;

# let trois_fact n = (nbdiv n n = 3);;
```