Ruée vers l'or

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Questions 1 et 2

Question 3

x	0	1	2	3	4	5	6	7	8	9	10	11	12
$\mathscr{T}(x)$	-	5	2	7	3	1	8	3	2	5	7	2	9
$\mathscr{S}(x)$	0	5	7	14	17	18	26	29	31	36	43	45	64

$$\mathrm{Val}\big(\mathscr{L}[i,j]\big) = \mathrm{Val}\big(\mathscr{L}[1,j]\big) - \mathrm{Val}\big(\mathscr{L}[1,i-1]\big)$$

$$\mathrm{Val}\big(\mathscr{L}[i,j]\big) = \mathscr{S}\big(j\big) - \mathscr{S}\big(i-1\big)$$

Pour être le plus général possible, on doit prendre $\mathscr{S}(0) = 0$!

Question 4

x	1	2	3	4	5	6	7	8	9	10	11	12
$\mathscr{T}(x)$	5	2	7	3	1	8	3	2	5	7	2	9
$\mathscr{S}(x)$	5	7	14	17	18	26	29	31	36	43	45	64

Question 4

```
let q4 n b = (* renvoie n+1 si impossible *)
  let i = ref 1 and j = ref 1 and best = ref (n+1) in
  while !j <= n-1 do
    if vl !i !j < b then incr j
      else (best := min !best (!j - !i + 1); incr i)
  done;
  !best
```

Question 5 à 7

Question 8

$\mathcal{V}_x^p$

$p=4$	-	-	-	7							
$p=3$	-	-	7								
$p=2$	-	5	7	10	11	14	15	17	18	25	26	33
$p=1$	5	7	14	17	18	26	29	31	36	43	45	64

x	1	2	3	4	5	6	7	8	9	10	11	12
$\mathcal{T}(x)$	5	2	7	3	1	8	3	2	5	7	2	9
$\mathcal{S}(x)$	5	7	14	17	18	26	29	31	36	43	45	64

Question 8


```
let q8 n p =
  let v = Array.make_matrix (p+1) (n+1) (-1) in
  (* Première ligne et première colonne non utilisées *)
  for x = 1 to n do v.(1).(x) <- s.(x) done;
  for p' = 2 to p do
    v.(p').(p') <- max v.(p'-1).(p'-1) t.(p');
    let i = ref p' in
    for j = p'+1 to n do
      while v.(p'-1).(!i) < vl (!i+1) j do incr i done;
      v.(p').(j) <- min (max v.(p'-1).(!i-1) (vl !i j))
                        (max v.(p'-1).(!i) (vl (!i+1) j));
    done;
  done;
  v.(p).(n)
```

Question 9

x	1	2	3	4	5	6	7	8	9	10	11	12
$\mathscr{T}(x)$	5	2	7	3	1	8	3	2	5	7	2	9
$\mathscr{S}(x)$	5	7	14	17	18	26	29	31	36	43	45	64

Question 9

```
let q9 n p b = (* on suppose b > M *)
  let acc = ref 0 and c = ref 1 in
  for i = 1 to n do
    if !acc + t.(i) > b then (acc := 0; incr c);
    acc := !acc + t.(i);
  done;
  !c <= p
```

Question 10


```
let q10 n p =
  let rec dicho i j =
    (* recherche du résultat dans [i..j[ *)
    if i>=j then i else
      let k = (i+j)/2 in
        if q9 n p k then dicho i k else dicho (k+1) j
  in dicho 0 (s.(n)+1)
```

Notes