

# De RAT à TAM

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## Exercice 1

Code RAT :

```
Prog {  
    const a = 8;  
    rat x = [6/a];  
    int y = (a+1);  
    x = (x + [3/2]);  
    while (y < 12) {  
        rat z = (x * [5/y]);  
        print z;  
        y = (y + 1);  
    }  
}
```

Code TAM correspondant :

```
prog:  
    PUSH 2  
    LOADL 6  
    LOADL 8  
    STORE (2) 0[SB]  
    PUSH 1  
    LOADL 8  
    LOADL 1  
    SUBR IAdd  
    STORE (1) 2[SB]  
    LOAD (2) 0[SB]  
    LOADL 3  
    LOADL 2  
    CALL (-) RAdd  
    STORE (2) 0[SB]  
boucle:  
    LOAD (1) 2[SB]  
    LOADL 12  
    SUBR ILss  
    JUMPIF (0) finBoucle  
    PUSH 2  
    LOAD (2) 0[SB]  
    LOADL 5  
    LOAD (1) 2[SB]  
    CALL (-) RMul  
    STORE (2) 3[SB]
```

```
CALL (-) R0ut
LOAD (1) 2[SB]
LOADL 1
SUBR IAdd
STORE (1) 2[SB]
JUMP boucle
finBoucle:
HALT
```

## Passe de génération de code

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### Exercice 2

Actions à réaliser lors de la passe :

```
let rec generation_code_expression e =
match e with
| AstType.AppelFonction(ia, listExp) ->
| AstType.Ident(ia) ->
| AstType.Booleen(bool) ->
| AstType.Entier(int) ->
| AstType.Unaire(un, expr) ->
| AstType.Binaire(bin, expression1, expression2) ->

let rec generation_code_instruction ia i =
match i with
| AstType.Declaration(ia, e) ->
| AstType.Affectation(ia, e) ->
| AstType.AffichageInt(e) ->
| AstType.AffichageRat(e) ->
| AstType.AffichageBool(e) ->
| AstType.Conditionnelle(c,t,e) ->
| AstType.TantQue(c,b) ->
| AstType.Retour(e) ->
| Empty -> ""

and generation_code_bloc ia li =

let generation_code_fonction (AstPlacement.Fonction(ia,_,li)) =
```