

Examen 2 - CI4721:

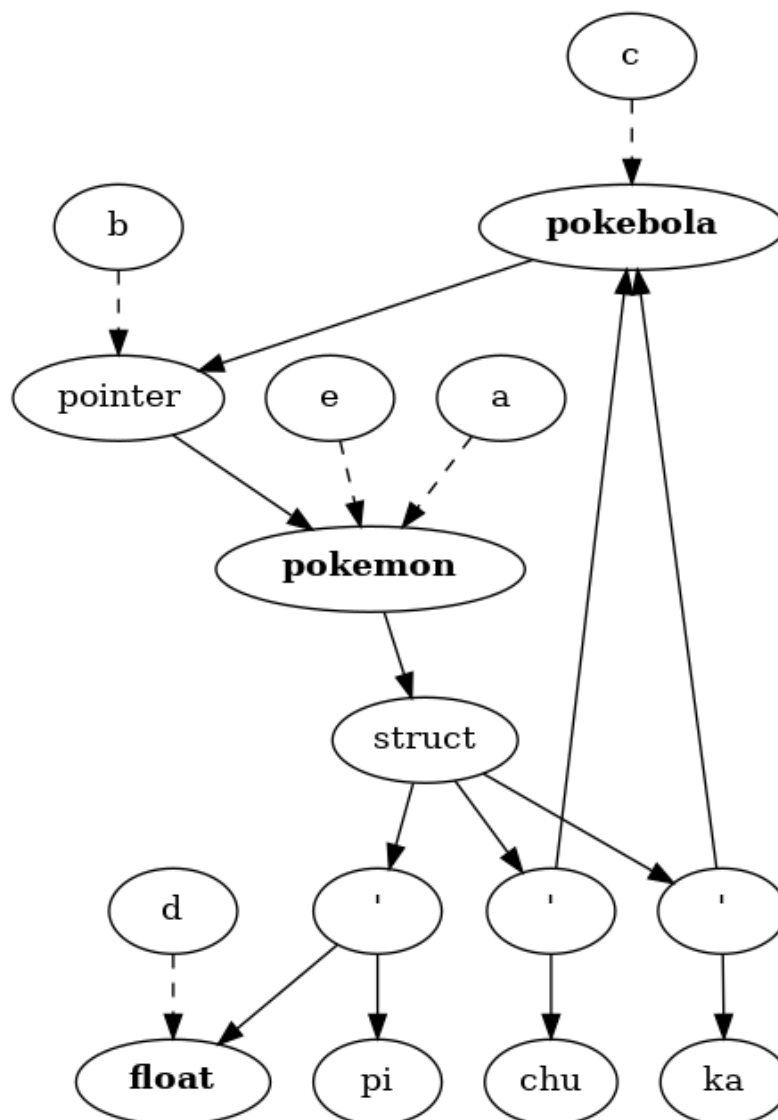
Pregunta 1:

```
type pokemon = struct
  pi : float
  ka : pokebola
  chu : pokebola
end
```

```
type pokebola = *pokemon
```

```
var a : pokemon
var b = &a : Tb
var c = (*b).chu : Tc
```

```
var d = (*a.chu).pi
var e = *(*(*c).ka).chu
```



Nota: Espero que se entienda, no logre hacer que se ponga mas bonito

Pregunta 2:

```
s, i = 0, 0;
while (i < 10) do
    s, i = s + (i * i) / 2, i + 1;
```

a)

```
Push 0
Lvalue s
Assign
```

```
Push 0
Lvalue i
Assign
```

Loop:

```
Rvalue i
Push 10
Lt
Gofalse Out
```

```
Rvalue s
Rvalue i
Rvalue i
Mul
Push 2
Div
Sum
Lvalue s
Assign
```

```
Rvalue i
Push 1
Sum
Lvalue i
Assign
```

```
Goto loop
Out:
```

b)

s := 0

i := 0

Loop:

If i >= 10 goto Out

T1 := i * i

T2 := T1 / 2

T3 := s + T2

s := T3

T4 := i + 1

i = T4

Goto loop

Out:

c)

$S \rightarrow \text{repeatWhen } E1 \text{ lt } S1 \text{ gt } S2$

```
{ S.type ← if (E1.type == int ∧ E1 < 0)
              then S1.type
            Else if (E1.type == int ∧ E1 > 0)
              then S2.type
            Else if (E1.type == int ∧ E1 == 0)
              then void
            Else type_error }
```