1. State which calling convention / parameter passing mode is being used and what gets printed:

**Oberon**

```oberon
VAR x : INTEGER;
VAR y : INTEGER;

PROCEDURE foo1 ( a : INTEGER; VAR b : INTEGER );
BEGIN
  a := 69;
  b := 420;
END foo1;

BEGIN
  x := 911; y := 404;
  foo1( x, y );
  OUTPUT "x = ", x, "; y = ", y, "\n";
END.
```

Parameter passing mode for `a` ___________
Parameter passing mode for `b` ___________

Output: `x = _______; y = _______

Fill in the blanks of the equivalent C program to simulate the above Oberon parameter passing modes (that exposes what the compiler is actually doing to implement these parameter passing modes):

```c
int x, y;

void foo1(___________ a, ___________ b ) {
    __________ = 69;
    __________ = 420;
}

int main( void ) {
    x = 911; y = 404;
    foo1( __________, __________);
    printf( "x = %d; y = %d\n", x, y );
    return 0;
}
```

2. What kind of information is potentially dangerous to store in unprotected Stack Frames on the Runtime Stack, especially in languages like C/C++?
3. Given the following code for foo(), write an equivalent more highly optimized version in SPARC assembly. Assume:  
- x is mapped to local register %l1  
- y is mapped to local register %l2  
- z is mapped to local register %l3  
- b is a global variable allocated in the Data segment and NOT mapped to a register

**Oberon**

```oberon
VAR b : INTEGER;

PROCEDURE foo( i : INTEGER);
  VAR x, y, z : INTEGER;

BEGIN
  x := 29;
  y := x - 5;
  z := i + y;

  b := z;
  b := b * 256;

END foo;

BEGIN
  foo( 10 );
END.
```

**SPARC Assembly**

```assembly
.globa l main, foo

.section ".data"
.b: .word 0

.section ".text"

save %sp, -96, %sp
! to local regs

mov 29, %l1 ! r1 = 29
sub %l1, 5, %l2 ! r2 = r1 - 5
add %i0, %l2, %l3 ! r3 = param1 + r2

set b, %l4
st %l3, [%l4] ! b = r3
set b, %l4
ld [%l4], %o0 ! out param1 = b
set 256, %o1 ! out param2 = 256
call .mul ! b * 256
nop
st %o0, [%l4] ! b = b * 256

ret
restore

main:
/* Code for main() not important */
```

Rewrite only code that is in the bounds of the rectangle.

What question would you most like to see on the Final?