

Avance 1:

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Ubuntu - VMware Workstation 17 Player (Non-commercial use only)
Player  sep 27 14:45
ubuntu@ubuntu-virtual-machine: ~/Desktop/Proyecto RISCv

ubuntu@ubuntu-virtual-machine:~/Desktop/Proyecto RISCv$ riscv32-unknown-elf-gcc -ol -g pm_ev_grupos_5_estudiantes.c -o pm_ev_grupos_5_estudiantes
pm_ev_grupos_5_estudiantes.c: In function 'main':
pm_ev_grupos_5_estudiantes.c:4:12: warning: initialization of 'int *' from 'int' makes pointer from integer without a cast [-Wint-conversion]
    4 |     int *r = 0xABCD;
      |         ^
ubuntu@ubuntu-virtual-machine:~/Desktop/Proyecto RISCv$ riscv32-unknown-elf-gcc -ol -g -c pm_ev_grupos_5_estudiantes.c -o pm_ev_grupos_5_estudiantes.o
pm_ev_grupos_5_estudiantes.c: In function 'main':
pm_ev_grupos_5_estudiantes.c:4:12: warning: initialization of 'int *' from 'int' makes pointer from integer without a cast [-Wint-conversion]
    4 |     int *r = 0xABCD;
      |         ^
ubuntu@ubuntu-virtual-machine:~/Desktop/Proyecto RISCv$ riscv32-unknown-elf-objdump -S pm_ev_grupos_5_estudiantes.o
pm_ev_grupos_5_estudiantes.o:          file format elf32-littleriscv

Disassembly of section .text:

00000000 <main>:
#include <stdio.h>

int main(){
0:   fd010113      add     sp,sp,-48
4:   02812623      sw      s0,44(sp)
8:   03010413      add     s0,sp,48
   int *r = 0xABCD;
c:   0000b7b7      lui     a5,0xb
10:  bcd78793      add     a5,a5,-1075 # abcd <.LASF4+0xaaef>
14:  fef42623      sw      a5,-20(s0)
   int a[5] = {};
18:  fc042823      sw      zero,-48(s0)
1c:  fc042a23      sw      zero,-44(s0)
20:  fc042c23      sw      zero,-40(s0)
24:  fc042e23      sw      zero,-36(s0)
28:  fe042023      sw      zero,-32(s0)
   int c = 14;
2c:  00e00793      li      a5,14
```

```
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   int c = 14;
2c:  00e00793      li      a5,14
30:  fef42423      sw      a5,-24(s0)
   int b = 7;
34:  00700793      li      a5,7
38:  fef42223      sw      a5,-28(s0)

a[0] = c+b;
3c:  fe842703      lw      a4,-24(s0)
40:  fe442783      lw      a5,-28(s0)
44:  00f707b3      add     a5,a4,a5
48:  fcf42823      sw      a5,-48(s0)
a[1] = c<<b;
4c:  fe442783      lw      a5,-28(s0)
50:  fe842703      lw      a4,-24(s0)
54:  00f717b3      sll     a5,a4,a5
58:  fcf42a23      sw      a5,-44(s0)
a[2] = c-a[1];
5c:  fd442783      lw      a5,-44(s0)
60:  fe842703      lw      a4,-24(s0)
64:  40f707b3      sub     a5,a4,a5
68:  fcf42c23      sw      a5,-40(s0)
a[3] = c & 0x0F;
6c:  fe842783      lw      a5,-24(s0)
70:  00f77f93      and     a5,a5,15
74:  fcf42e23      sw      a5,-36(s0)
a[4] = c^b;
78:  fe842703      lw      a4,-24(s0)
7c:  fe442783      lw      a5,-28(s0)
80:  00f747b3      xor     a5,a4,a5
84:  fef42023      sw      a5,-32(s0)
88:  00000793      li      a5,0

//printf("Result in order %d %d %d %d %d\n", a[0], a[1], a[2], a[3], a[4]);
8c:  00078513      mv      a0,a5
90:  02c12403      lw      s0,44(sp)
94:  03010113      add     sp,sp,48
98:  00008067      ret

ubuntu@ubuntu-virtual-machine:~/Desktop/Proyecto RISCv$
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Instrucción RISCv32I	Explicación
add	Operación AL.
sw	Store Word, guarda en memoria el valor de un registro.
lui	Load Upper Immediate, guarda los 20 bits más significativos de la palabra en un registro.
li	Load Immediate, carga en un registro el valor de un número.
lw	Load Word, carga en un registro el valor de una dirección de memoria.
sll	Logical Shift Left.
sub	Operación AL.
and	Operación AL.
xor	Operación AL.
mv	Move, mueve un registro a otro.
ret	Similar a “jalr” jump and link and register, Similar a Branch Link.

Formato RISCv (R, I, S, J, B, U)	Líneas Código:
Formato R	44, 54, 64, 80
Formato I	0, 8, 10, 2C, 34, 3C, 40, 4C, 50, 5C, 60, 6C, 70, 78, 7C, 88, 8C, 90, 94, 98
Formato S	4, 14, 18, 1C, 20, 24, 28, 30, 38, 48, 58, 68, 74, 84
Formato J	
Formato B	
Formato U	C

