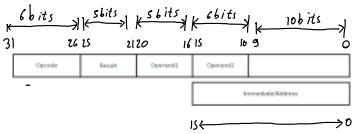

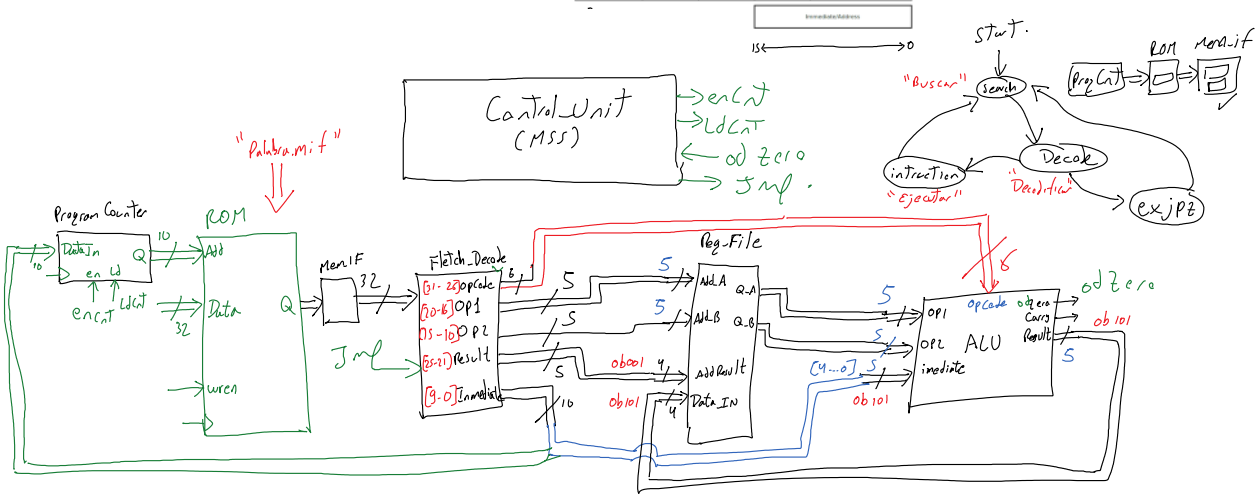

ProgCnt

```
0 : 00011000001000000000000000000101;   l: Add Result immediate
1 : 00011000011000000000000000000110;   l: Mult Result immediate
2 : 00011000011000000000000000000000;   l: Mult Result immediate
3 : 00011000100000000000000000000001;   l: Add Result immediate
4 : 00011100101000000000010000000000;   Add Result opt opt
5 : 00011100011000110000110000000000;   Add Result opt opt
6 : 00100000101001010010010000000000;   sub Result opt opt
7 : 00111100000000000000000000001001;   jpz ProgCount.
8 : 01000000000000000000000000001001;   jp ProgCont.
9 (1023] : 00000000000000000000000000000000;   Fin
```

```
Reg_file (0) <="0"
Reg_file (1) <= "5";
Reg_file (2) <= "6";
Reg_file (3) <= "0";
Reg_file (4) <= "1";
Reg_file (6) <= Reg_file (0) + Reg_file (2);
Reg_file (3) <= Reg_file (3) + Reg_file (1);
Reg_file (5) <= Reg_file (5) - Reg_file (4);
```

	#2	#3	#4	#5	#6
	10 <= 5+5	0<=0+5	20<=15+5	25<=20+5	30<=25+5
	4 <= 5-1	3<= 4-1	2<= 3-1	1<=2-1	0<=1-1

```
Reg_file (0) <="0"
Reg_file (1) <= "5";
Reg_file (2) <= "6";
Reg_file (3) <= "0";
Reg_file (4) <= "1";
Reg_file (6) <= Reg_file (0) + Reg_file (2);
Reg_file (3) <= Reg_file (3) + Reg_file (1);
Reg_file (5) <= Reg_file (5) - Reg_file (4);
```

```
a = 0;
b = 5;
c = 6;
d = 0;
e = 1;
f = 0 + c;
while(f > 0) {
    d = d + "5";
    f = f - "1";
}
```

6x5 = 30