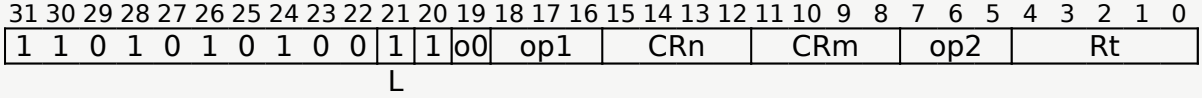
## MRS

Move System Register to general-purpose register allows the PE to read an AArch64 System register into a general-purpose register.




```
MRS <Xt>, (<systemreg>|S<op0>_<op1>_<Cn>_<Cm>_<op2>)

AArch64.CheckSystemAccess('1':o0, op1, CRn, CRm, op2, Rt, L);

integer t = UInt(Rt);

integer sys_op0 = 2 + UInt(o0);
integer sys_op1 = UInt(op1);
integer sys_op2 = UInt(op2);
integer sys_crn = UInt(CRn);
integer sys_crm = UInt(CRm);
```

### Assembler Symbols

<Xt> Is the 64-bit name of the general-purpose destination register, encoded in the "Rt" field.

<systemreg> Is a System register name, encoded in the "o0:op1:CRn:CRm:op2".

The System register names are defined in '*AArch64 System Registers*' *in the System Register XML*.

<op0> Is an unsigned immediate, encoded in “o0”:

| o0 | <op0> |
|---|---|
| 0 | 2 |
| 1 | 3 |

<op1> Is a 3-bit unsigned immediate, in the range 0 to 7, encoded in the "op1" field.

<Cn> Is a name 'Cn', with 'n' in the range 0 to 15, encoded in the "CRn" field.

<Cm> Is a name 'Cm', with 'm' in the range 0 to 15, encoded in the "CRm" field.

<op2> Is a 3-bit unsigned immediate, in the range 0 to 7, encoded in the "op2" field.

### Operation

```
AArch64.SysRegRead(sys_op0, sys_op1, sys_crn, sys_crm, sys_op2, t);
```

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