ADC

Add with Carry adds two register values and the Carry flag value, and writes the result to the destination register.

31	30	29	28	27	26	25	24	23	22	21	20 19 18 17 16	15	14	13	12	11	10	9 8 7 6 5	4 3 2 1 0
sf	0	0	1	1	0	1	0	0	0	0	Rm	0	0	0	0	0	0	Rn	Rd

op S

32-bit (sf == 0)

```
ADC <Wd>, <Wn>, <Wm>
```

64-bit (sf == 1)

```
ADC <Xd>, <Xn>, <Xm>
```

```
integer d = UInt(Rd);
integer n = UInt(Rn);
integer m = UInt(Rm);
constant integer datasize = 32 << UInt(sf);
```

Assembler Symbols

<Wd>   Is the 32-bit name of the general-purpose destination register, encoded in the "Rd" field.

<Wn>   Is the 32-bit name of the first general-purpose source register, encoded in the "Rn" field.

<Wm>   Is the 32-bit name of the second general-purpose source register, encoded in the "Rm" field.

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

<Xn>   Is the 64-bit name of the first general-purpose source register, encoded in the "Rn" field.

<Xm>   Is the 64-bit name of the second general-purpose source register, encoded in the "Rm" field.

Operation

```
bits(datasize) result;
bits(datasize) operand1 = X[n, datasize];
bits(datasize) operand2 = X[m, datasize];

(result, -) = AddWithCarry(operand1, operand2, PSTATE.C);

X[d, datasize] = result;
```

Operational information

If PSTATE.DIT is 1:

- The execution time of this instruction is independent of:
  - The values of the data supplied in any of its registers.
  - The values of the NZCV flags.
- The response of this instruction to asynchronous exceptions does not vary based on:
  - The values of the data supplied in any of its registers.
  - The values of the NZCV flags.