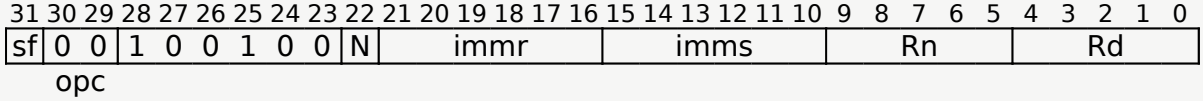
AND (immediate)

Bitwise AND (immediate) performs a bitwise AND of a register value and an immediate value, and writes the result to the destination register.



32-bit (sf == 0 && N == 0)

```
AND <Wd|WSP>, <Wn>, #<imm>
```

64-bit (sf == 1)

```
AND <Xd|SP>, <Xn>, #<imm>
```

```
integer d = UInt(Rd);
integer n = UInt(Rn);
constant integer datasize = 32 << UInt(sf);
bits(datasize) imm;
if sf == '0' && N != '0' then UNDEFINED;
(imm, -) = DecodeBitMasks(N, imms, immr, TRUE, datasize);
```

Assembler Symbols

<Wd|WSP>	Is the 32-bit name of the destination general-purpose register or stack pointer, encoded in the "Rd" field.
<Wn>	Is the 32-bit name of the general-purpose source register, encoded in the "Rn" field.
<Xd|SP>	Is the 64-bit name of the destination general-purpose register or stack pointer, encoded in the "Rd" field.
<Xn>	Is the 64-bit name of the general-purpose source register, encoded in the "Rn" field.
<imm>	For the 32-bit variant: is the bitmask immediate, encoded in "imms:immr". For the 64-bit variant: is the bitmask immediate, encoded in "N:imms:immr".

Operation

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

result = operand1 AND imm;
if d == 31 then
```

```
    SP[] = ZeroExtend(result, 64);
else
    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.

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