The Convert to Binary instruction takes packed decimal data and converts it to 2’s complement integer data. Operand 1 designates a register where the result will be stored. Operand 2 represents a doubleword storage area which contains a valid 8-byte packed decimal integer.

**CVB** can convert any signed packed decimal integer in the range -2,147,483,648 and +2,147,483,647. If the doubleword specified in Operand 2 contains an integer outside this range, the 32 rightmost bits of the result are placed in the Operand 1 register and a fixed-point-divide exception is recognized.

In the following example, a packed field of length 4 is converted to binary.

```
ZAP   DOUBWORD,XPACK   MOVE PACKED NO TO
DOUBLEWORD
CVB   R5,DOUBWORD      CHANGE IT TO BINARY
...
XPACK   DC    PL4'123'         X'0000123C'
DOUBWORD DS    D
```

To convert XPACK to binary, we must first move it to a doubleword as required by the **CVB** instruction. At the end of the conversion, R5 contains x'0000007B' = 123.

The diagram below illustrates the relationship between **CVB** and other data conversion instructions for some common data types.

```
Binary
  ↓
CVB
  ↓
Packed Decimal
  ↓
PACK
  ↓
Character
  ↓
Zoned Decimal
```

```
CVD
  ↓
ED or EDMK
  ↓
UNPK
```
**Examples**

Some Unrelated CVB Instructions

```assembly
DOUBWORD DS D
PKD1 DC P'L5'19'
PKD2 DC P'1865'
PKD3 DC P'-1'

ZAP DOUBWORD,PKD1 MOVE PACKED NO. TO STAGING AREA
CVB R8,DOUBWORD R8 = X'00000013' = 19

ZAP DOUBWORD,PKD2 MOVE PACKED NO. TO STAGING AREA
CVB R8,DOUBWORD R8 = X'00000749' = 1865

ZAP DOUBWORD,PKD3 MOVE PACKED NO. TO STAGING AREA
CVB R5,DOUBWORD R5 = X'FFFFFFFF' = -1

ZAP DOUBWORD,=C'123' DATA IS NOT PACKED
CVB R4,DOUBWORD ABEND - DATA MUST BE PACKED

ZAP DOUBWORD,=P'3,000,000,000' DATA IS PACKED
CVB R4,DOUBWORD ABEND - FIXED PT. DIVIDE EXCEPTION
DATA > 2,147,483,647
```