[Claims]

1. A method of video encoding, the method comprising:

determining a collocated block (37) of a current block (35) of a current image (30) from among blocks of a collocated picture (31) in a reference list of the current image (30);

when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), determining a reference list of the collocated block (37) which is identical to the reference list of the current image (30), as the collocated reference list and generating a motion vector predictor of the current block (35) by using a motion vector corresponding to the collocated reference list; and

generating prediction information about a motion vector of the current block (35) based on the motion vector predictor.

2. An apparatus for video encoding, the apparatus comprising:

a processor configured to determine a collocated block (37) of a current block (35) of a current image (30) from among blocks of a collocated picture (31) in a reference list of the current image (30) and generate prediction information about a motion vector of the current block (35) based on a motion vector predictor determined by using a motion vector of the collocated block (37),

wherein, when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), the processor is configured to determine a reference list of the collocated block (37) which is identical to the reference list of the current image (30), as the collocated reference list and generate a motion vector predictor of the current block by using a motion vector corresponding to the collocated reference list and generate prediction information about a motion vector of the current block (35) based on the generated motion vector predictor.

3. A method of video encoding, the method comprising:

determining a collocated block (37) of a current block (35) of a current image (30) from among blocks of a collocated picture (31) in a reference list of the current image (30);

when the collocated picture (31) is determined in a reference list L1 of the current block (35), determining a reference list L0 (38) of the collocated block (37) as a collocated reference list to be referred to for motion vector prediction of the current block (35);

when the collocated picture (31) is determined in a reference list L0 of the current block (35), determining a reference list L1 (38) of the collocated block (37) as the collocated reference list;

when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), determining a reference list of the collocated block (37) which is identical to the reference list of the current image (30), as the collocated reference list;

generating a motion vector predictor of the current block (35) by using a motion vector corresponding to the collocated reference list; and

generating prediction information about a motion vector of the current block (35) based on the motion vector predictor.

4. An apparatus for video encoding, the apparatus comprising:

a processor configured to determine a collocated block (37) of a current block (35) of a current image (30) from among blocks of a collocated picture (31) in a reference list of the current image (30) and generate prediction information about a motion vector of the current

block (35) based on a motion vector predictor determined by using a motion vector of the collocated block (37),

wherein, when the collocated picture (31) is determined in a reference list L1 of the current block (35), the processor is configured to determine a reference list L0 (38) of the collocated block (37) as a collocated reference list to be referred to for motion vector prediction of the current block (35),

when the collocated picture (31) is determined in a reference list L0 of the current block (35), the processor is configured to determine a reference list L1 (38) of the collocated block (37) as the collocated reference list,

when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), the processor is configured to determine a reference list of the collocated block (37) which is identical to the reference list of the current image (30), as the collocated reference list, and

the processor is configured to generate a motion vector predictor of the current block by using a motion vector corresponding to the collocated reference list and generate prediction information about a motion vector of the current block (35) based on the generated motion vector predictor.

5. A method of video encoding, the method comprising:

generating collocated picture list information to indicate whether a collocated picture (31) is from a reference list L0 of the current block (35);

determining a collocated block (37) of the current block (35) of a current image (30) from among blocks of the collocated picture (31);

when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), determining a reference list of the collocated block (37) which is identical to the reference list of the current image (30), as the collocated reference list;

generating a motion vector predictor of the current block (35) by using a motion vector corresponding to the collocated reference list; and

generating prediction information about a motion vector of the current block (35) based on the motion vector predictor.

6. A non-transitory computer-readable storage medium storing a bitstream, the bitstream comprising:

collocated picture list information to indicate whether a collocated picture (31) is from a reference list L0 of the current block (35); and

prediction information about a motion vector of the current block (35), generated determined by using a motion vector of a collocated block (37),

wherein, the collocated block (37) is determined from among blocks of the collocated picture (31) and a motion vector predictor is determined by using a motion vector of the collocated block (37),

when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), a reference list of the collocated block (37) which is identical to the reference list of the current image (30), is determined as the collocated reference list, and the motion vector predictor is determined by using a motion vector of the collocated block (37) according to the collocated reference list.

7. A non-transitory computer-readable storage medium storing a bitstream, the bitstream comprising:

collocated picture list information to indicate whether a collocated picture (31) is from a reference list L0 of the current block (35); and

prediction information about a motion vector of the current block (35), generated determined by using a motion vector of a collocated block (37),

wherein, the collocated block (37) is determined from among blocks of the collocated picture (31) and a motion vector predictor is determined by using a motion vector of the collocated block (37),

when the collocated picture (31) is determined in a reference list L1 of the current block (35), a reference list L0 (38) of the collocated block (37) is determined as a collocated reference list to be referred to for motion vector prediction of the current block (35),

when the collocated picture (31) is determined in a reference list L0 of the current block (35), determining a reference list L1 (38) of the collocated block (37) is determined as the collocated reference list,

when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), a reference list of the collocated block (37) which is identical to the reference list of the current image (30), is determined as the collocated reference list, and

the motion vector predictor is determined by using a motion vector of the collocated block (37) according to the collocated reference list.

8. A non-transitory computer-readable storage medium storing a bitstream, the bitstream comprising:

collocated picture list information to indicate whether a collocated picture (31) is from a reference list L0 of the current block (35); and

prediction information about a motion vector of the current block (35), generated determined by using a motion vector of a collocated block (37),

wherein, the collocated block (37) is determined from among blocks of the collocated picture (31) and a motion vector predictor is determined by using a motion vector of the collocated block (37),

when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), a reference list of the collocated block (37) which is identical to the reference list of the current image (30), is determined as the collocated reference list, and the motion vector predictor is determined by scaling a motion vector of the collocated block (37) according to the collocated reference list, the motion vector is modified in proportion to a distance from the collocated picture (31) to a reference image of the collocated block (37) and a distance from the current picture to a reference image of the current block (35).

9. A non-transitory computer-readable storage medium storing a bitstream, the bitstream comprising:

collocated picture list information to indicate whether a collocated picture (31) is from a reference list L0 of the current block (35);

prediction information about a motion vector of the current block (35), generated determined by using a motion vector of a collocated block (37); and

residual information to indicate difference between prediction samples determined based on the prediction information and samples of the current block (35),

wherein, the collocated block (37) is determined from among blocks of the collocated picture (31) and a motion vector predictor is determined by using a motion vector of the collocated block (37),

when the collocated picture (31) is determined in a reference list L1 of the current block (35), a reference list L0 (38) of the collocated block (37) is determined as a collocated reference list to be referred to for motion vector prediction of the current block (35),

when the collocated picture (31) is determined in a reference list L0 of the current block (35), determining a reference list L1 (38) of the collocated block (37) is determined as the collocated reference list,

when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), a reference list of the collocated block (37) which is identical to the reference list of the current image (30), is determined as the collocated reference list, and

the motion vector predictor is determined by using a motion vector of the collocated block (37) according to the collocated reference list.

10. A non-transitory computer-readable storage medium storing a bitstream, the bitstream comprising:

collocated picture list information to indicate whether a collocated picture (31) is from a reference list L0 of the current block (35);

prediction information about a motion vector of the current block (35), generated determined by using a motion vector of a collocated block (37); and

residual information to indicate difference between prediction samples determined based on the prediction information and samples of the current block (35),

wherein, the collocated block (37) is determined from among blocks of the collocated picture (31) and a motion vector predictor is determined by using a motion vector of the collocated block (37),

when picture order count (POC) numbers of the collocated picture (31) is always smaller than that of the current image (30), a reference list of the collocated block (37) which is identical to the reference list of the current image (30), is determined as the collocated reference list, and the motion vector predictor is determined by scaling a motion vector of the collocated block (37) according to the collocated reference list, the motion vector is modified in proportion to a distance from the collocated picture (31) to a reference image of the collocated block (37) and a distance from the current picture to a reference image of the current block (35).