Intra mode coding considering MPM
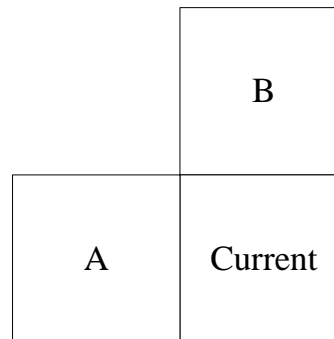
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Intra coding mode in HM

☐ **Multiple MPMs are used.**

   ■ Modes of left and above PUs considered as MPM.

   ■ *prev_intra_luma_pred_flag*

     ☐ The flag is set to '1' when the mode of the current PU is same with a mode of left PU or above PU.

   ■ *rem_intra_luma_pred_mode*

     ☐ Remaining modes are coded according to the number of remaining modes.

     ☐ It should be signaled when *prev_intra_luma_pred_flag* is equal to '0'.

	B
A	Current

Proposed intra mode coding [1/2]

☐ In case of *prev_intra_luma_pred_flag*=0,

$$N_R = N_S - N_{MPM}$$

- N_S : # of available intra prediction modes

- N_{MPM} : # of MPMs

- N_R : # of remaining intra prediction modes

■ If N_R is equal to '1', *rem_intra_luma_pred_mode* is not needed to signal.

■ It can be applied to 64x64 intra mode coding in the current HM.

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Proposed intra mode coding [2/2]

- ☐ Example) 64x64 intra mode coding
  - ■ Available modes
    Vertical / Horizontal / DC (Planar)
  - ■ In HM,
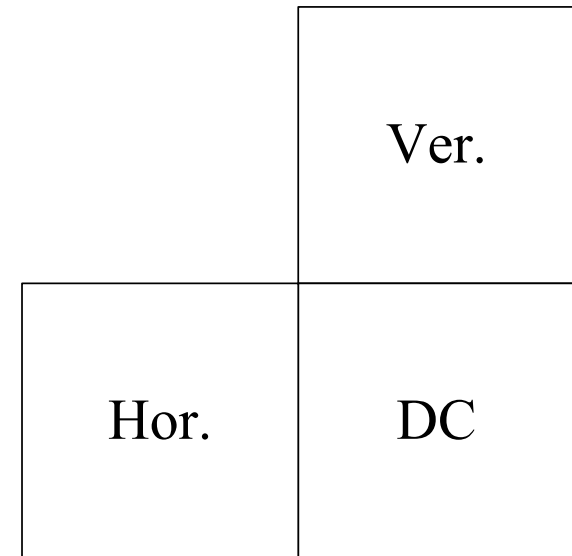
    $prev\_intra\_luma\_pred\_flag = 0$

    $rem\_intra\_luma\_pred\_mode = 0$

  - ■ In the proposed method,

    $$N_R = N_S - N_{MPM}$$
    $$\quad 1 \qquad 3 \qquad 2$$

    Only $prev\_intra\_luma\_pred\_flag = 0$

	Ver.
Hor.	DC

Results of HM3.2+Prop.

	All Intra HE			All Intra LC		
	Y	U	V	Y	U	V
Class A	0.0	-0.1	-0.1	0.0	0.0	0.0
Class B	0.0	0.0	0.0	0.0	0.0	0.0
Class C	0.0	0.0	0.0	0.0	0.0	0.0
Class D	0.0	0.0	0.0	0.0	0.0	0.0
Class E	0.0	0.0	0.0	0.0	0.0	0.0
Overall	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Enc Time[%]	100%			100%		
Dec Time[%]	100%			100%		

Conclusions

- ☐ Intra mode coding considering multiple MPMs is proposed.

- ☐ The proposed method removes unnecessary bits with minor modification.

- ☐ Logically, the proposed method is appropriate to HM.

- ☐ It is recommended to adopt the proposed method to HM.

THANK YOU!