

```

?????
 $bffor]$ amp =
 $b+$ 
 $c; d =$ 
 $bmp; d =$ 
 $tamp; e =$ 
 $b+$ 
 $c*$ 
 $2; f =$ 
 $\{bnp*$ 
 $\})*$ 
 $3;$ 
 $MaxLen_{Opc} \leftarrow$ 
 $MI_{Opc} \notin$ 
 $\{GMEMCPY, GMEMMOVE, GMEMSET\}$ 
 $Dst_{Src_{Lep_{MI_{DstAlign_{SrcAlign_{Len_0}}}}}}$ 
 $MaxLen > 0$ 
 $and$ 
 $Len > MaxLen_{Opc} =$ 
 $GMEMCPY$ 
 $Opc =$ 
 $GMEMMOVE$ 
 $Opc =$ 
 $GMEMSET$ 
 $?????$ 
 $bffor]$ 

```

$add(zext x, zext y)$

$op(ext x, ext y) \Rightarrow ext(op(x, y))$

```

 $t[classepo, base < Instructionopcode, InstructionnextOpcode >:$ 
 $GICCombineRule < defroot :$ 
 $ext1, ExtMI, (extOpcode$ 
 $src2), (opcode$ 
 $ext1, root, [returnmatchEPO(*$ 
 $dst,$ 
 $src2);]), (apply[applyEPO(*$ 
 $ExtMI ->$ 
 $getOpcode() ==$ 
 $TargetOpcode :: GS EXT,$ 
 $src1,$ 
 $con1_bffor]$  AND OVZ E H OR 20x0; MOVI GL GR20x1;
```

$[-2^{15}, 2^{15} - 1]$

$con2_bffor]$ MOVI GL EX GR20xF FBF; MOVI GL GR20xF123;

$C = 2^n \pm 1$

(1) $C = (2^n \pm 1) \times 2^m$

(2)

$$(3) \quad x \times (2^n + 1) = (x \ll n) + x$$

$$(4) \quad x \times (2^n - 1) = (x \ll n) - x$$