

$$\text{Sum}_i = \text{AND}\left(\frac{i}{2}\right) \vee \left(\bigvee_{k=0}^{\frac{i}{2}-1} [\text{OR}(k) \wedge \text{OR}(i-k)] \right) \vee \left(\bigvee_{k=i+1}^{\frac{n+i}{2}} [\text{OR}(k') \wedge \text{OR}(n+i-k')] \right)$$

$i = \text{even}$

$\frac{i}{2} - 1 = 0$

$k' = i+1 \dots n-2$

$$\text{Sum}_i = \text{AND}\left(\frac{n+i}{2}\right) \vee \left(\bigvee_{k=0}^{\frac{i}{2}} [\text{OR}(k) \wedge \text{OR}(i-k)] \right) \vee \left(\bigvee_{k=i+1}^{\frac{n+i}{2}-1} [\text{OR}(k') \wedge \text{OR}(n+i-k')] \right)$$

$i = \text{odd}$

$n = 5$

$\times \quad \times \quad \times$

$k' = i+1 = 5$
 $\left(\frac{n+i}{2}\right) - 1 = \left(\frac{5+3}{2}\right) - 1 = 4 - 1 = 3$

$$\text{Sum}_0 = \text{AND}(0) \vee \text{OR}(0) \wedge \text{OR}(4) \vee (\text{OR}(2) \wedge \text{OR}(3))$$

$$\text{Sum}_1 = \text{AND}(3) \vee (\text{OR}(0) \wedge \text{OR}(1)) \vee (\text{OR}(2) \wedge \text{OR}(4))$$

$$\text{Sum}_2 = \text{AND}(1) \vee (\text{OR}(0) \wedge \text{OR}(2)) \vee (\text{OR}(3) \wedge \text{OR}(4))$$

$$\text{Sum}_3 = \text{AND}(4) \vee (\text{OR}(0) \wedge \text{OR}(3)) \vee (\text{OR}(1) \wedge \text{OR}(2))$$

$$\text{Sum}_4 = \text{AND}(2) \vee (\text{OR}(0) \wedge \text{OR}(4)) \vee (\text{OR}(1) \wedge \text{OR}(3))$$

$\times \quad \times \quad \times$

$n = 9$

$$\text{Sum}_0 = \text{AND}(0) \vee (\text{OR}(1) \wedge \text{OR}(8)) \vee (\text{OR}(2) \wedge \text{OR}(7)) \vee (\text{OR}(3) \wedge \text{OR}(6)) \vee (\text{OR}(4) \wedge \text{OR}(5))$$

$$\text{Sum}_1 = \text{AND}(1) \vee (\text{OR}(0) \wedge \text{OR}(2)) \vee (\text{OR}(3) \wedge \text{OR}(8)) \vee (\text{OR}(4) \wedge \text{OR}(7)) \vee (\text{OR}(5) \wedge \text{OR}(6))$$

$$\text{Sum}_2 = \text{AND}(2) \vee (\text{OR}(0) \wedge \text{OR}(4)) \vee (\text{OR}(1) \wedge \text{OR}(3)) \vee (\text{OR}(5) \wedge \text{OR}(8)) \vee (\text{OR}(6) \wedge \text{OR}(7))$$

$$\text{Sum}_3 = \text{AND}(3) \vee (\text{OR}(0) \wedge \text{OR}(6)) \vee (\text{OR}(1) \wedge \text{OR}(5)) \vee (\text{OR}(2) \wedge \text{OR}(4)) \vee (\text{OR}(7) \wedge \text{OR}(8))$$

$$\text{Sum}_4 = \text{AND}(4) \vee (\text{OR}(0) \wedge \text{OR}(8)) \vee (\text{OR}(1) \wedge \text{OR}(7)) \vee (\text{OR}(2) \wedge \text{OR}(6)) \vee (\text{OR}(5) \wedge \text{OR}(3))$$

$$Sum_1 = AND(5) \vee (OR(0) \wedge OR(1)) \vee (OR(2) \wedge OR(8)) \vee (OR(3) \wedge OR(7)) \vee (OR(4) \wedge OR(6))$$

$$Sum_3 = AND(6) \vee (OR(0) \wedge OR(3)) \vee (OR(1) \wedge OR(2)) \vee (OR(4) \wedge OR(8)) \vee (OR(5) \wedge OR(7))$$

$$Sum_5 = AND(7) \vee (OR(0) \wedge OR(7)) \vee (OR(1) \wedge OR(6)) \vee (OR(2) \wedge OR(5)) \vee (OR(3) \wedge OR(8))$$

$$Sum_7 = AND(8) \vee (OR(0) \wedge OR(7)) \vee (OR(1) \wedge OR(6)) \vee (OR(2) \wedge OR(5)) \vee (OR(3) \wedge OR(4))$$

$$m = 11$$

$$Sum_0 = AND(0) \vee (OR(1) \wedge OR(4)) \vee (OR(2) \wedge OR(9)) \vee (OR(3) \wedge OR(8)) \vee (OR(4) \wedge OR(7)) \vee (OR(5) \wedge OR(6))$$

$$Sum_2 = AND(1) \vee (OR(0) \wedge OR(2)) \vee (OR(3) \wedge OR(10)) \vee (OR(4) \wedge OR(9)) \vee (OR(5) \wedge OR(8)) \vee (OR(6) \wedge OR(7))$$

$$Sum_4 = AND(2) \vee (OR(0) \wedge OR(4)) \vee (OR(1) \wedge OR(3)) \vee (OR(5) \wedge OR(10)) \vee (OR(6) \wedge OR(9)) \vee (OR(7) \wedge OR(8))$$

$$Sum_6 = AND(3) \vee (OR(0) \wedge OR(6)) \vee (OR(1) \wedge OR(5)) \vee (OR(2) \wedge OR(4)) \vee (OR(7) \wedge OR(10)) \vee (OR(8) \wedge OR(9))$$

$$Sum_8 = AND(4) \vee (OR(0) \wedge OR(8)) \vee (OR(1) \wedge OR(7)) \vee (OR(2) \wedge OR(6)) \vee (OR(3) \wedge OR(5)) \vee (OR(9) \wedge OR(10))$$

$$Sum_{10} = AND(5) \vee (OR(0) \wedge OR(10)) \vee (OR(1) \wedge OR(9)) \vee (OR(2) \wedge OR(8)) \vee (OR(3) \wedge OR(7)) \vee (OR(4) \wedge OR(6))$$

$$Sum_{11} = AND(6) \vee (OR(0) \wedge OR(11)) \vee (OR(2) \wedge OR(10)) \vee (OR(3) \wedge OR(9)) \vee (OR(4) \wedge OR(8)) \vee (OR(5) \wedge OR(7))$$

$$Sum_{12} = AND(7) \vee (OR(0) \wedge OR(12)) \vee (OR(1) \wedge OR(11)) \vee (OR(2) \wedge OR(10)) \vee (OR(3) \wedge OR(9)) \vee (OR(4) \wedge OR(8)) \vee (OR(5) \wedge OR(7))$$

$$\text{Sum}_5 = \text{AND}(3) \vee (\text{OR}(0) \wedge \text{OR}(5)) \vee (\text{OR}(1) \wedge \text{OR}(4)) \vee (\text{OR}(2) \wedge \text{OR}(6)) \\ \vee (\text{OR}(6) \wedge \text{OR}(9)) \vee (\text{OR}(7) \wedge \text{OR}(9))$$

$$\text{Sum}_7 = \text{AND}(9) \vee (\text{OR}(0) \wedge \text{OR}(7)) \vee (\text{OR}(1) \wedge \text{OR}(6)) \vee (\text{OR}(2) \wedge \text{OR}(5)) \\ \vee (\text{OR}(3) \wedge \text{OR}(4)) \vee (\text{OR}(8) \wedge \text{OR}(10))$$

$$\text{Sum}_9 = \text{AND}(10) \vee (\text{OR}(0) \wedge \text{OR}(9)) \vee (\text{OR}(1) \wedge \text{OR}(8)) \vee (\text{OR}(2) \wedge \text{OR}(7)) \\ \vee (\text{OR}(3) \wedge \text{OR}(6)) \vee (\text{OR}(4) \wedge \text{OR}(5))$$