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prime, a0=false,a1=false,a2=false,a3=false;

Click Clear

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(%i1) t1: (not a3) and (not a2) and a1;

(%o1) $\neg a_3 \wedge \neg a_2 \wedge a_1$

(%i2) t2: (not a3) and a2 and a0;

(%o2) $\neg a_3 \wedge a_2 \wedge a_0$

(%i3) t3: (not a2) and a1 and a0;

(%o3) $\neg a_2 \wedge a_1 \wedge a_0$

(%i4) t4: a2 and (not a1) and a0;

(%o4) $a_2 \wedge \neg a_1 \wedge a_0$

(%i5) prime: t1 or t2 or t3 or t4;

(%o5) $\neg a_3 \wedge \neg a_2 \wedge a_1 \vee \neg a_3 \wedge a_2 \wedge a_0 \vee \neg a_2 \wedge a_1 \wedge a_0 \vee a_2 \wedge \neg a_1 \wedge a_0$

(%i6) prime, a0=false,a1=false,a2=false,a3=false;

(%o6) false

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1. The answer is false because 0 is not a prime number.

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prime, a0=true,a1=false,a2=false,a3=false;

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(%i1) t1: (not a3) and (not a2) and a1;

(%o1) $\neg a_3 \wedge \neg a_2 \wedge a_1$

(%i2) t2: (not a3) and a2 and a0;

(%o2) $\neg a_3 \wedge a_2 \wedge a_0$

(%i3) t3: (not a2) and a1 and a0;

(%o3) $\neg a_2 \wedge a_1 \wedge a_0$

(%i4) t4: a2 and (not a1) and a0;

(%o4) $a_2 \wedge \neg a_1 \wedge a_0$

(%i5) prime: t1 or t2 or t3 or t4;

(%o5) $\neg a_3 \wedge \neg a_2 \wedge a_1 \vee \neg a_3 \wedge a_2 \wedge a_0 \vee \neg a_2 \wedge a_1 \wedge a_0 \vee a_2 \wedge \neg a_1 \wedge a_0$

(%i6) prime, a0=true,a1=false,a2=false,a3=false;

(%o6) false

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2. The answer is false because 1 is not a prime number.

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prime, a0=false,a1=true,a2=false,a3=false;

Clic Clear

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(%i1) t1: (not a3) and (not a2) and a1;

(%o1) $\neg a_3 \wedge \neg a_2 \wedge a_1$

(%i2) t2: (not a3) and a2 and a0;

(%o2) $\neg a_3 \wedge a_2 \wedge a_0$

(%i3) t3: (not a2) and a1 and a0;

(%o3) $\neg a_2 \wedge a_1 \wedge a_0$

(%i4) t4: a2 and (not a1) and a0;

(%o4) $a_2 \wedge \neg a_1 \wedge a_0$

(%i5) prime: t1 or t2 or t3 or t4;

(%o5) $\neg a_3 \wedge \neg a_2 \wedge a_1 \vee \neg a_3 \wedge a_2 \wedge a_0 \vee \neg a_2 \wedge a_1 \wedge a_0 \vee a_2 \wedge \neg a_1 \wedge a_0$

(%i6) prime, a0=false,a1=true,a2=false,a3=false;

(%o6) true

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3. The answer is true because 2 is a prime number.

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prime, a0=true,a1=true,a2=false,a3=false;

Clic Clear

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```
(%i1) t1: (not a3) and (not a2) and a1;
(%o1)  ¬a₃ ∧ ¬a₂ ∧ a₁

(%i2) t2: (not a3) and a2 and a0;
(%o2)  ¬a₃ ∧ a₂ ∧ a₀

(%i3) t3: (not a2) and a1 and a0;
(%o3)  ¬a₂ ∧ a₁ ∧ a₀

(%i4) t4: a2 and (not a1) and a0;
(%o4)  a₂ ∧ ¬a₁ ∧ a₀

(%i5) prime: t1 or t2 or t3 or t4;
(%o5)  ¬a₃ ∧ ¬a₂ ∧ a₁ ∨ ¬a₃ ∧ a₂ ∧ a₀ ∨ ¬a₂ ∧ a₁ ∧ a₀ ∨ a₂ ∧ ¬a₁ ∧ a₀

(%i6) prime, a0=true,a1=true,a2=false,a3=false;
(%o6)  true
```

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4. The answer is true because 3 is a prime number.

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prime, a0=false,a1=false,a2=true,a3=false;

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```
(%i1) t1: (not a3) and (not a2) and a1;
(%o1)  ¬a₃ ∧ ¬a₂ ∧ a₁

(%i2) t2: (not a3) and a2 and a0;
(%o2)  ¬a₃ ∧ a₂ ∧ a₀

(%i3) t3: (not a2) and a1 and a0;
(%o3)  ¬a₂ ∧ a₁ ∧ a₀

(%i4) t4: a2 and (not a1) and a0;
(%o4)  a₂ ∧ ¬a₁ ∧ a₀

(%i5) prime: t1 or t2 or t3 or t4;
(%o5)  ¬a₃ ∧ ¬a₂ ∧ a₁ ∨ ¬a₃ ∧ a₂ ∧ a₀ ∨ ¬a₂ ∧ a₁ ∧ a₀ ∨ a₂ ∧ ¬a₁ ∧ a₀

(%i6) prime, a0=false,a1=false,a2=true,a3=false;
(%o6)  false
```

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5. The answer is false because 4 is not a prime number

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```
prime, a0=true,a1=false,a2=true,a3=false;
```

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```
(%i1) t1: (not a3) and (not a2) and a1;
(%o1) ¬a3 ∧ ¬a2 ∧ a1

(%i2) t2: (not a3) and a2 and a0;
(%o2) ¬a3 ∧ a2 ∧ a0

(%i3) t3: (not a2) and a1 and a0;
(%o3) ¬a2 ∧ a1 ∧ a0

(%i4) t4: a2 and (not a1) and a0;
(%o4) a2 ∧ ¬a1 ∧ a0

(%i5) prime: t1 or t2 or t3 or t4;
(%o5) ¬a3 ∧ ¬a2 ∧ a1 ∨ ¬a3 ∧ a2 ∧ a0 ∨ ¬a2 ∧ a1 ∧ a0 ∨ a2 ∧ ¬a1 ∧ a0

(%i6) prime, a0=true,a1=false,a2=true,a3=false;
(%o6) true
```

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6. The answer is true because 5 is a prime number.

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```
prime, a0 = false, a1 = true, a2 = true, a3 =false;
```

Clic Clear

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```
(%i1) t1: (not a3) and (not a2) and not a1;
(%o1) ¬a3 ∧ ¬a2 ∧ ¬a1

(%i2) t2: (not a3) and a2 and a0;
(%o2) ¬a3 ∧ a2 ∧ a0

(%i3) t3: (not a2) and a1 and a0;
(%o3) ¬a2 ∧ a1 ∧ a0

(%i4) t4: a2 and (not a1) and a0;
(%o4) a2 ∧ ¬a1 ∧ a0

(%i5) prime: t1 or t2 or t3 or t4;
(%o5) ¬a3 ∧ ¬a2 ∧ ¬a1 ∨ ¬a3 ∧ a2 ∧ a0 ∨ ¬a2 ∧ a1 ∧ a0 ∨ a2 ∧ ¬a1 ∧ a0

(%i6) prime, a0 = false, a1 = true, a2 = true, a3 =false;
(%o6) false
```

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7. The answer is false because 6 is not a prime number.

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```
prime, a0 = true, a1 = true, a2 = true, a3 = false;
```

Clic Clear

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```
(%i1) t1: (not a3) and (not a2) and not a1;
(%o1)  ¬a₃ ∧ ¬a₂ ∧ ¬a₁

(%i2) t2: (not a3) and a2 and a0;
(%o2)  ¬a₃ ∧ a₂ ∧ a₀

(%i3) t3: (not a2) and a1 and a0;
(%o3)  ¬a₂ ∧ a₁ ∧ a₀

(%i4) t4: a2 and (not a1) and a0;
(%o4)  a₂ ∧ ¬a₁ ∧ a₀

(%i5) prime: t1 or t2 or t3 or t4;
(%o5)  ¬a₃ ∧ ¬a₂ ∧ ¬a₁ ∨ ¬a₃ ∧ a₂ ∧ a₀ ∨ ¬a₂ ∧ a₁ ∧ a₀ ∨ a₂ ∧ ¬a₁ ∧ a₀

(%i6) prime, a0 = true, a1 = true, a2 = true, a3 = false;
(%o6)  true
```

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8. The answer is true because 7 is a prime number

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```
prime, a0 = true, a1 = false, a2 = false, a3 = true;
```

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```
(%i1) t1: (not a3) and (not a2) and not a1;
(%o1)  ¬a₃ ∧ ¬a₂ ∧ ¬a₁

(%i2) t2: (not a3) and a2 and a0;
(%o2)  ¬a₃ ∧ a₂ ∧ a₀

(%i3) t3: (not a2) and a1 and a0;
(%o3)  ¬a₂ ∧ a₁ ∧ a₀

(%i4) t4: a2 and (not a1) and a0;
(%o4)  a₂ ∧ ¬a₁ ∧ a₀

(%i5) prime: t1 or t2 or t3 or t4;
(%o5)  ¬a₃ ∧ ¬a₂ ∧ ¬a₁ ∨ ¬a₃ ∧ a₂ ∧ a₀ ∨ ¬a₂ ∧ a₁ ∧ a₀ ∨ a₂ ∧ ¬a₁ ∧ a₀

(%i6) prime, a0 = true, a1 = false, a2 = false, a3 = true;
(%o6)  false
```

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9. The answer is false because 8 is not a prime number.

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```
prime, a0 = false, a1 = true, a2 = false, a3 =true;
```

Clic Clear

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```
(%i1) t1: (not a3) and (not a2) and not a1;
(%o1)  ¬a₃ ∧ ¬a₂ ∧ ¬a₁

(%i2) t2: (not a3) and a2 and a0;
(%o2)  ¬a₃ ∧ a₂ ∧ a₀

(%i3) t3: (not a2) and a1 and a0;
(%o3)  ¬a₂ ∧ a₁ ∧ a₀

(%i4) t4: a2 and (not a1) and a0;
(%o4)  a₂ ∧ ¬a₁ ∧ a₀

(%i5) prime: t1 or t2 or t3 or t4;
(%o5)  ¬a₃ ∧ ¬a₂ ∧ ¬a₁ ∨ ¬a₃ ∧ a₂ ∧ a₀ ∨ ¬a₂ ∧ a₁ ∧ a₀ ∨ a₂ ∧ ¬a₁ ∧ a₀

(%i6) prime, a0 = false, a1 = true, a2 = false, a3 =true;
(%o6)  false
```

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10. The answer is false because 9 is not a prime number.

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```
prime, a0 = true, a1 = false, a2 = false, a3 =true;
```

Clic Clear

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```
(%i1) t1: (not a3) and (not a2) and not a1;
(%o1)  ¬a₃ ∧ ¬a₂ ∧ ¬a₁

(%i2) t2: (not a3) and a2 and a0;
(%o2)  ¬a₃ ∧ a₂ ∧ a₀

(%i3) t3: (not a2) and a1 and a0;
(%o3)  ¬a₂ ∧ a₁ ∧ a₀

(%i4) t4: a2 and (not a1) and a0;
(%o4)  a₂ ∧ ¬a₁ ∧ a₀

(%i5) prime: t1 or t2 or t3 or t4;
(%o5)  ¬a₃ ∧ ¬a₂ ∧ ¬a₁ ∨ ¬a₃ ∧ a₂ ∧ a₀ ∨ ¬a₂ ∧ a₁ ∧ a₀ ∨ a₂ ∧ ¬a₁ ∧ a₀

(%i6) prime, a0 = true, a1 = false, a2 = false, a3 =true;
(%o6)  false
```

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11. The answer is false because 10 is not a prime number

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prime, a0 = true, a1 = true, a2 = false, a3 =true;

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(%i1) t1: (not a3) and (not a2) and not a1;

(%o1) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1$

(%i2) t2: (not a3) and a2 and a0;

(%o2) $\neg a_3 \wedge a_2 \wedge a_0$

(%i3) t3: (not a2) and a1 and a0;

(%o3) $\neg a_2 \wedge a_1 \wedge a_0$

(%i4) t4: a2 and (not a1) and a0;

(%o4) $a_2 \wedge \neg a_1 \wedge a_0$

(%i5) prime: t1 or t2 or t3 or t4;

(%o5) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1 \vee \neg a_3 \wedge a_2 \wedge a_0 \vee \neg a_2 \wedge a_1 \wedge a_0 \vee a_2 \wedge \neg a_1 \wedge a_0$

(%i6) prime, a0 = true, a1 = true, a2 = false, a3 =true;

(%o6) true

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12. The answer is true because 11 is a prime number

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prime, a0 = false, a1 = false, a2 = true, a3 =true;

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(%i1) t1: (not a3) and (not a2) and not a1;

(%o1) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1$

(%i2) t2: (not a3) and a2 and a0;

(%o2) $\neg a_3 \wedge a_2 \wedge a_0$

(%i3) t3: (not a2) and a1 and a0;

(%o3) $\neg a_2 \wedge a_1 \wedge a_0$

(%i4) t4: a2 and (not a1) and a0;

(%o4) $a_2 \wedge \neg a_1 \wedge a_0$

(%i5) prime: t1 or t2 or t3 or t4;

(%o5) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1 \vee \neg a_3 \wedge a_2 \wedge a_0 \vee \neg a_2 \wedge a_1 \wedge a_0 \vee a_2 \wedge \neg a_1 \wedge a_0$

(%i6) prime, a0 = false, a1 = false, a2 = true, a3 =true;

(%o6) false

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13. The answer is false because 12 is not a prime number.

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prime, a0 = true, a1 = false, a2 = true, a3 =true;

Clic Clear

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(%i1) t1: (not a3) and (not a2) and not a1;

(%o1) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1$

(%i2) t2: (not a3) and a2 and a0;

(%o2) $\neg a_3 \wedge a_2 \wedge a_0$

(%i3) t3: (not a2) and a1 and a0;

(%o3) $\neg a_2 \wedge a_1 \wedge a_0$

(%i4) t4: a2 and (not a1) and a0;

(%o4) $a_2 \wedge \neg a_1 \wedge a_0$

(%i5) prime: t1 or t2 or t3 or t4;

(%o5) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1 \vee \neg a_3 \wedge a_2 \wedge a_0 \vee \neg a_2 \wedge a_1 \wedge a_0 \vee a_2 \wedge \neg a_1 \wedge a_0$

(%i6) prime, a0 = true, a1 = false, a2 = true, a3 =true;

(%o6) true

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14. The answer is true because 13 is a prime number

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prime, a0 = false, a1 = true, a2 = true, a3 =true;

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(%i1) t1: (not a3) and (not a2) and not a1;

(%o1) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1$

(%i2) t2: (not a3) and a2 and a0;

(%o2) $\neg a_3 \wedge a_2 \wedge a_0$

(%i3) t3: (not a2) and a1 and a0;

(%o3) $\neg a_2 \wedge a_1 \wedge a_0$

(%i4) t4: a2 and (not a1) and a0;

(%o4) $a_2 \wedge \neg a_1 \wedge a_0$

(%i5) prime: t1 or t2 or t3 or t4;

(%o5) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1 \vee \neg a_3 \wedge a_2 \wedge a_0 \vee \neg a_2 \wedge a_1 \wedge a_0 \vee a_2 \wedge \neg a_1 \wedge a_0$

(%i6) prime, a0 = false, a1 = true, a2 = true, a3 =true;

(%o6) false

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15. The answer is false because 14 is not a prime number

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prime, a0 = true, a1 = true, a2 = true, a3 =true;

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(%i1) t1: (not a3) and (not a2) and not a1;

(%o1) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1$

(%i2) t2: (not a3) and a2 and a0;

(%o2) $\neg a_3 \wedge a_2 \wedge a_0$

(%i3) t3: (not a2) and a1 and a0;

(%o3) $\neg a_2 \wedge a_1 \wedge a_0$

(%i4) t4: a2 and (not a1) and a0;

(%o4) $a_2 \wedge \neg a_1 \wedge a_0$

(%i5) prime: t1 or t2 or t3 or t4;

(%o5) $\neg a_3 \wedge \neg a_2 \wedge \neg a_1 \vee \neg a_3 \wedge a_2 \wedge a_0 \vee \neg a_2 \wedge a_1 \wedge a_0 \vee a_2 \wedge \neg a_1 \wedge a_0$

(%i6) prime, a0 = true, a1 = true, a2 = true, a3 =true;

(%o6) false

[Yumwi](#)

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16. The answer is false because 15 is not a prime number