Phan Ngoc Hanh Nhi

2131209002

**Assignment 1**

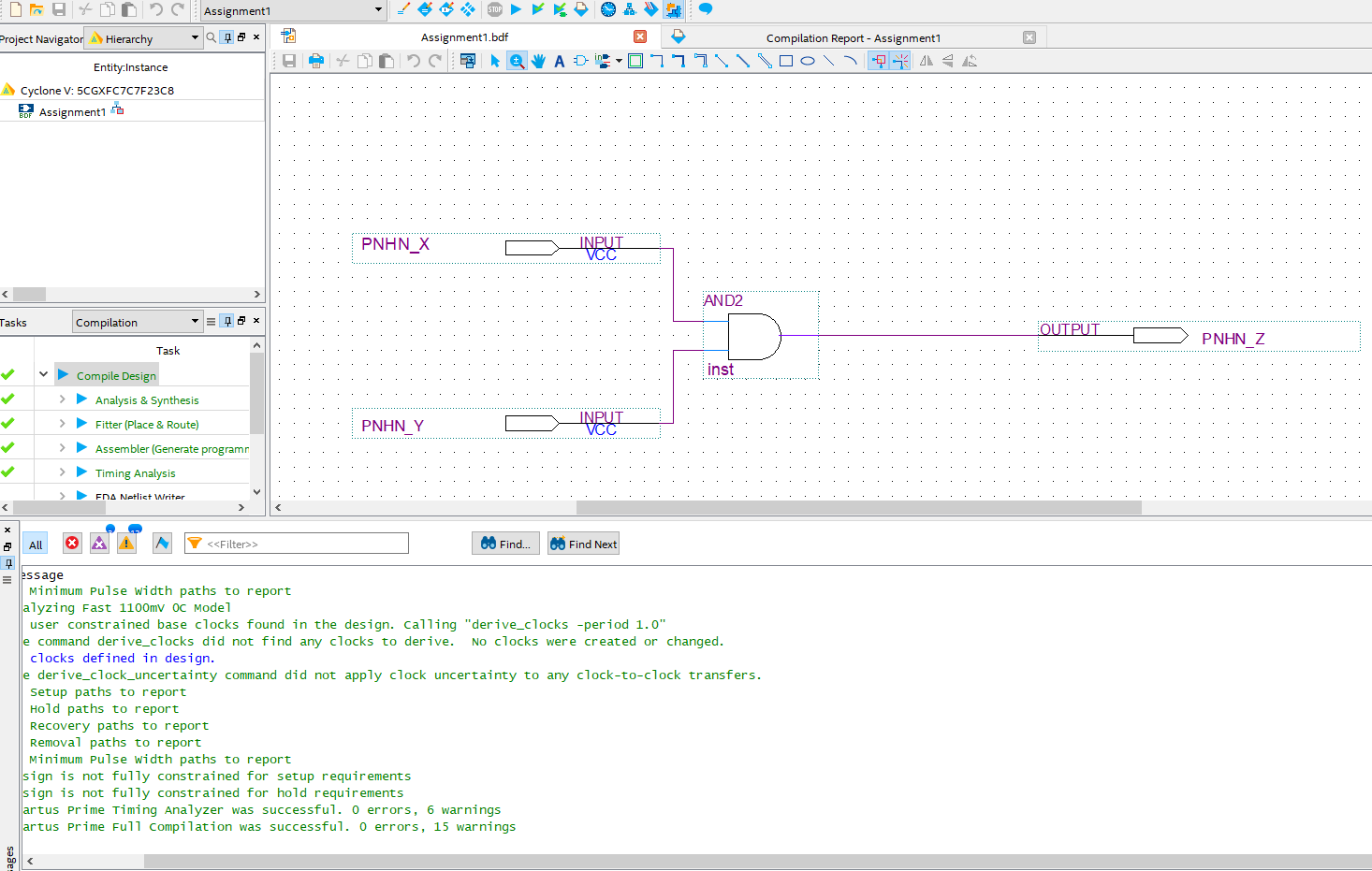
1. **Boolean/Logic Expression:**

**Z = X . Y**

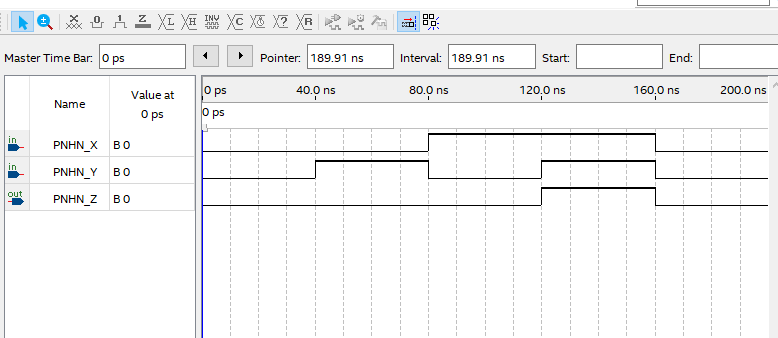
1. **Truth Table:**

| **X** | **Y** | **Z** |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

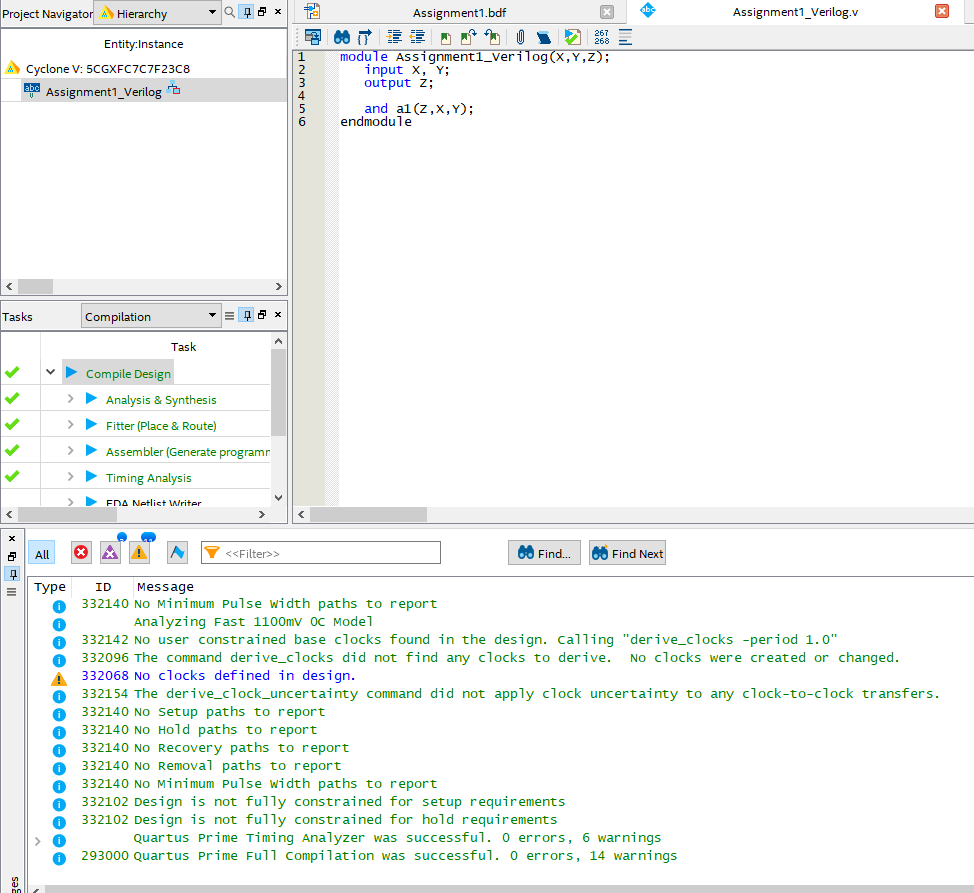
1. **Diagram**

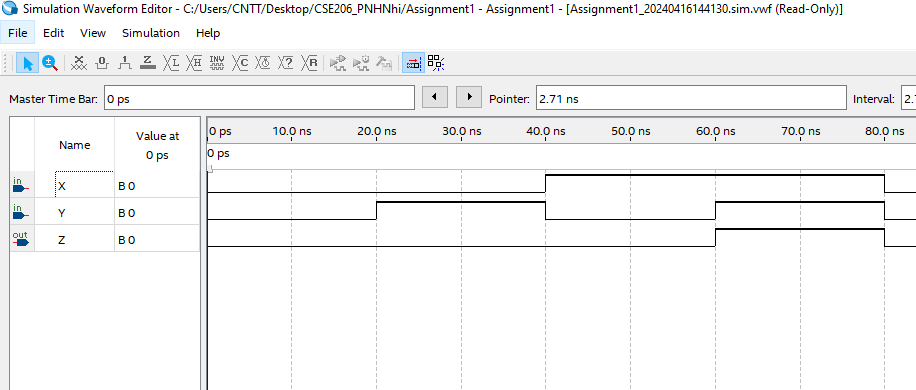
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1. **Simulations:**

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1. **Verilog:**

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**Assignment 2**

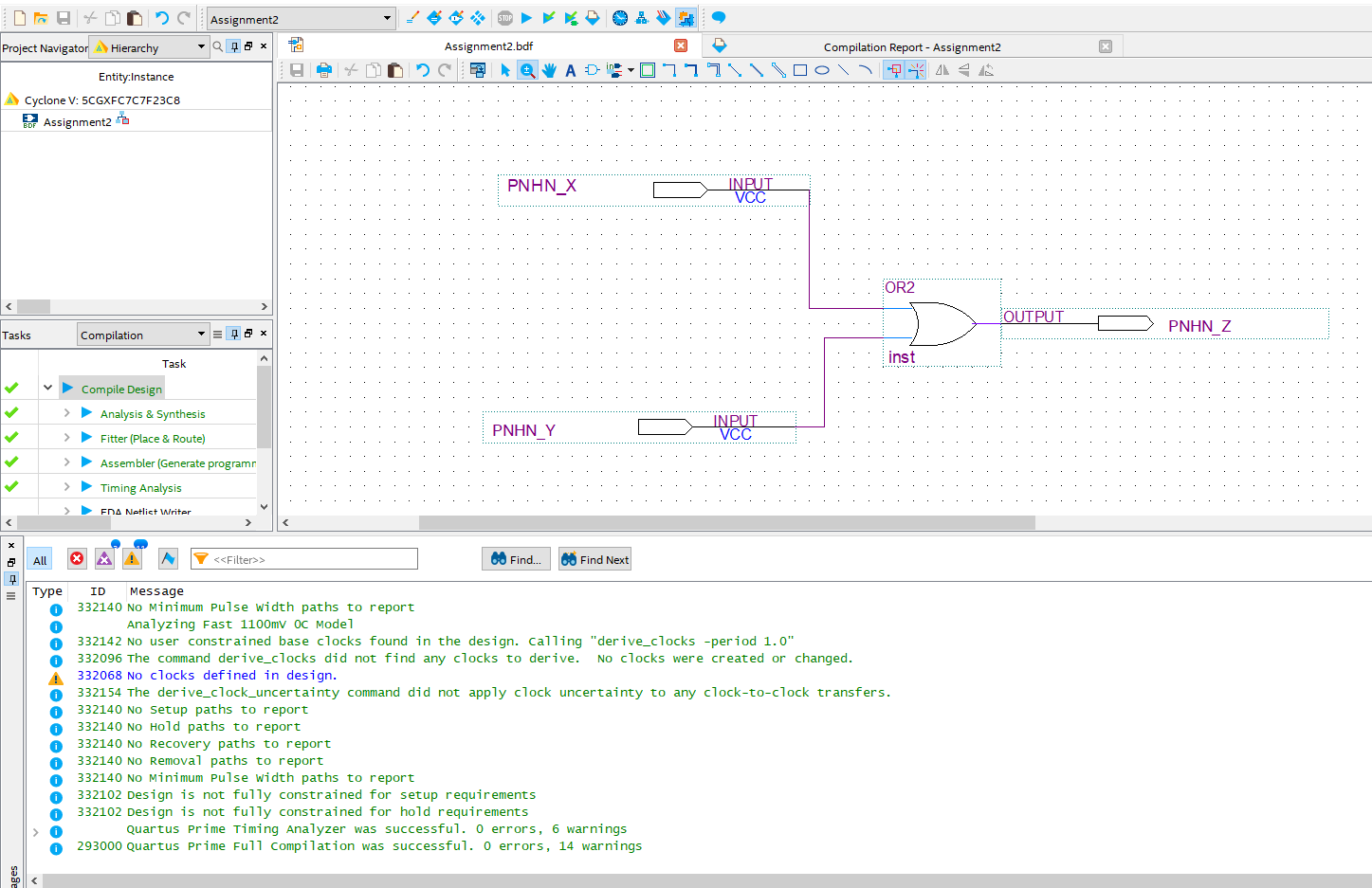
1. **Boolean/Logic Expression:**

**Z = X + Y**

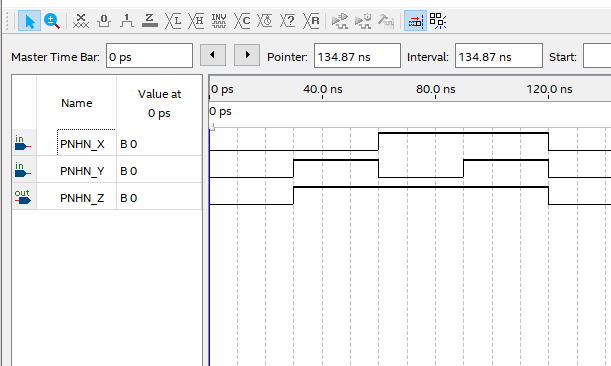
1. **Truth Table:**

| **X** | **Y** | **Z** |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

1. **Diagram:**

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1. **Simulations:**

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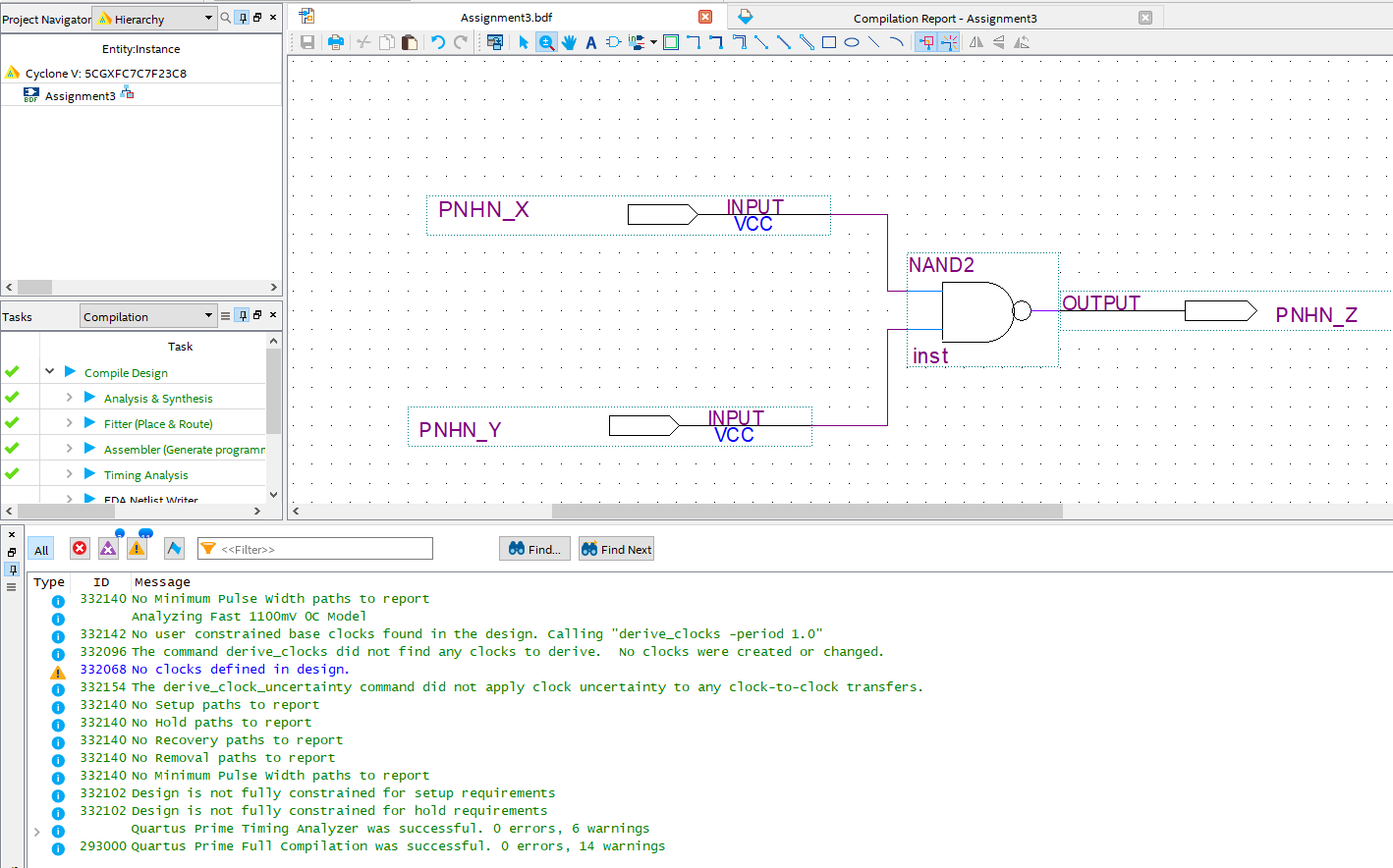
**Assignment 3**

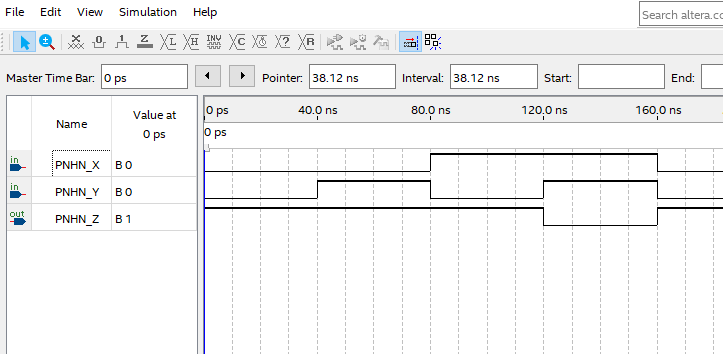
1. **Boolean/Logic Expression:**

**Z = (X . Y)’**

1. **Truth Table:**

| **X** | **Y** | **Z** |
| --- | --- | --- |
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

1. **Diagram:**
2. **Simulations:**

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**Assignment 4**

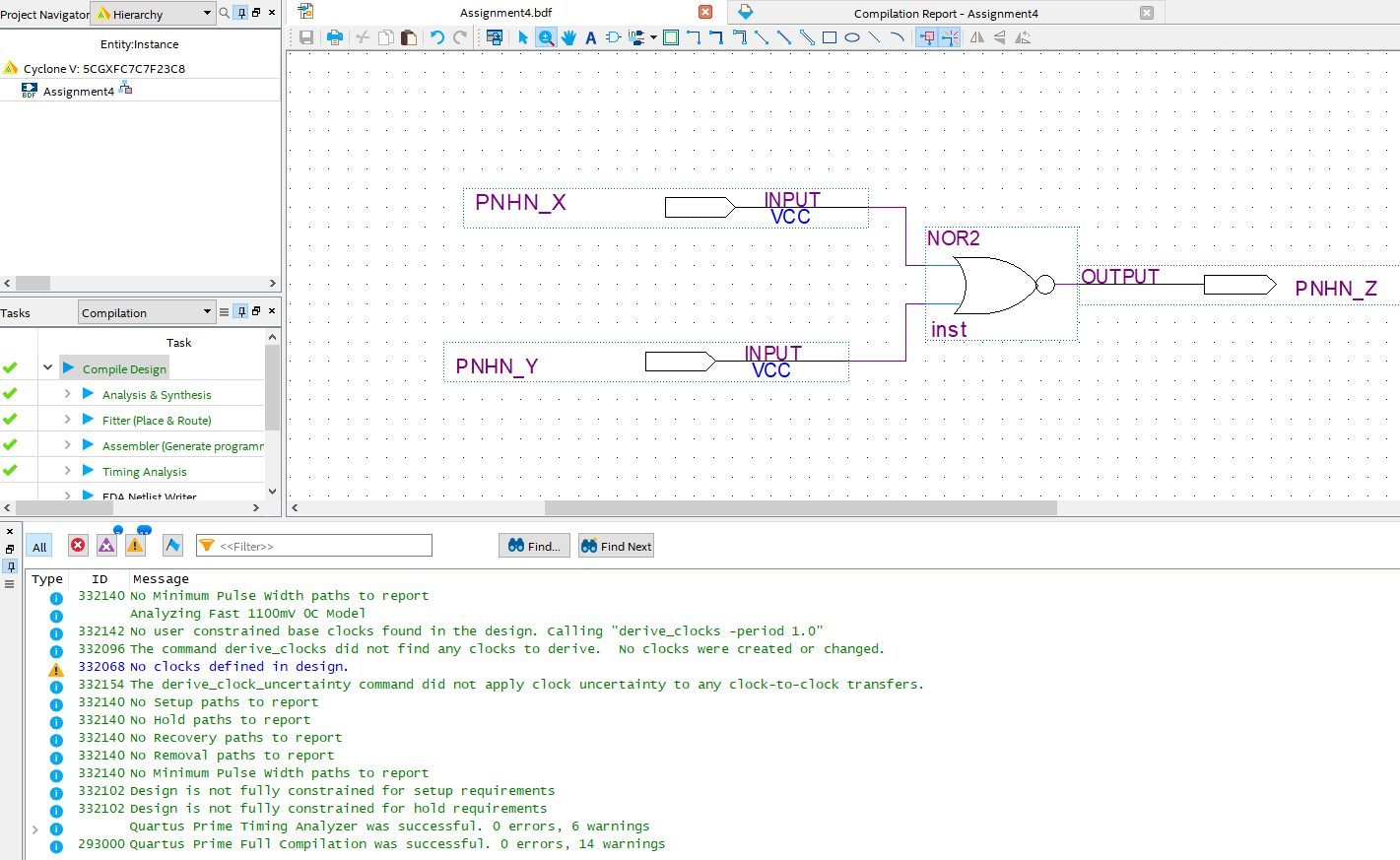
1. **Boolean/Logic Expression:**

**Z = (X+ Y)’**

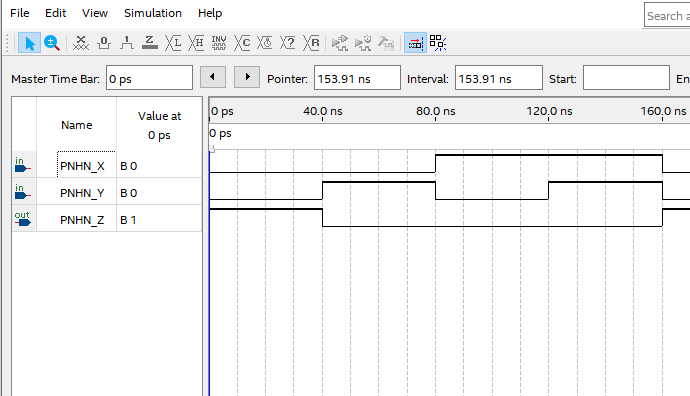
1. **Truth Table:**

| **X** | **Y** | **Z** |
| --- | --- | --- |
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |

1. **Diagram:**

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1. **Simulations:**

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**Assignment 5**

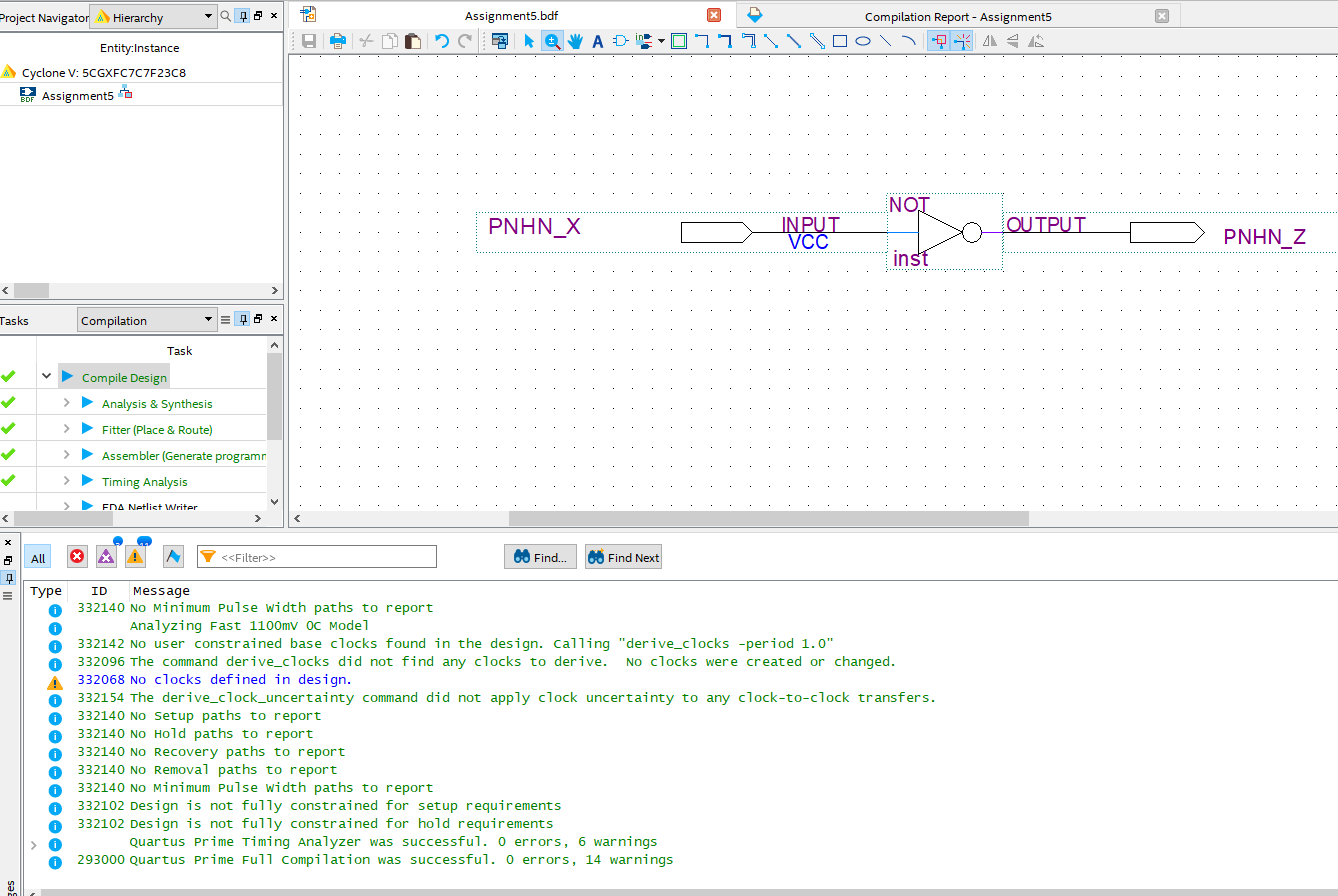
1. **Boolean/Logic Expression:**

**Z = X’**

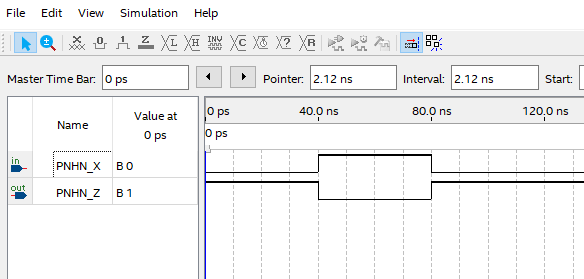
1. **Truth Table:**

| **X** | **Z** |
| --- | --- |
| 0 | 1 |
| 1 | 0 |

1. **Diagram:**

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1. **Simulations:**

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**Assignment 6**

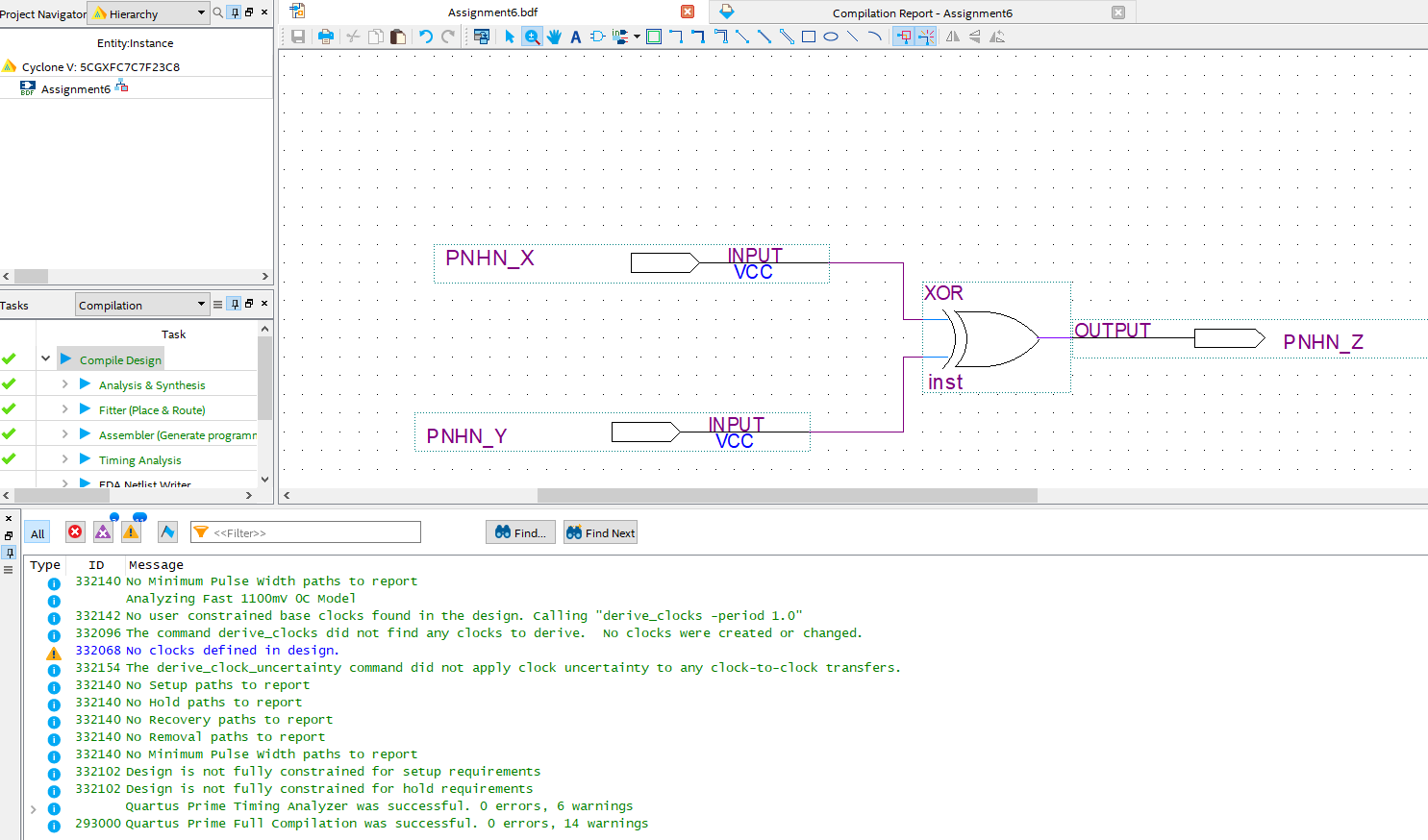
1. **Boolean/Logic Expression:**

**Z = XOR**

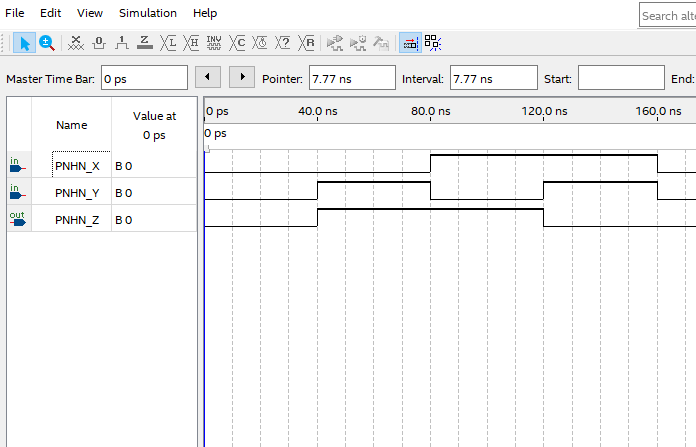
1. **Truth Table:**

| **X** | **Y** | **X⊕Y** |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

1. **Diagram:**

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1. **Simulations:**

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**Assignment 7**

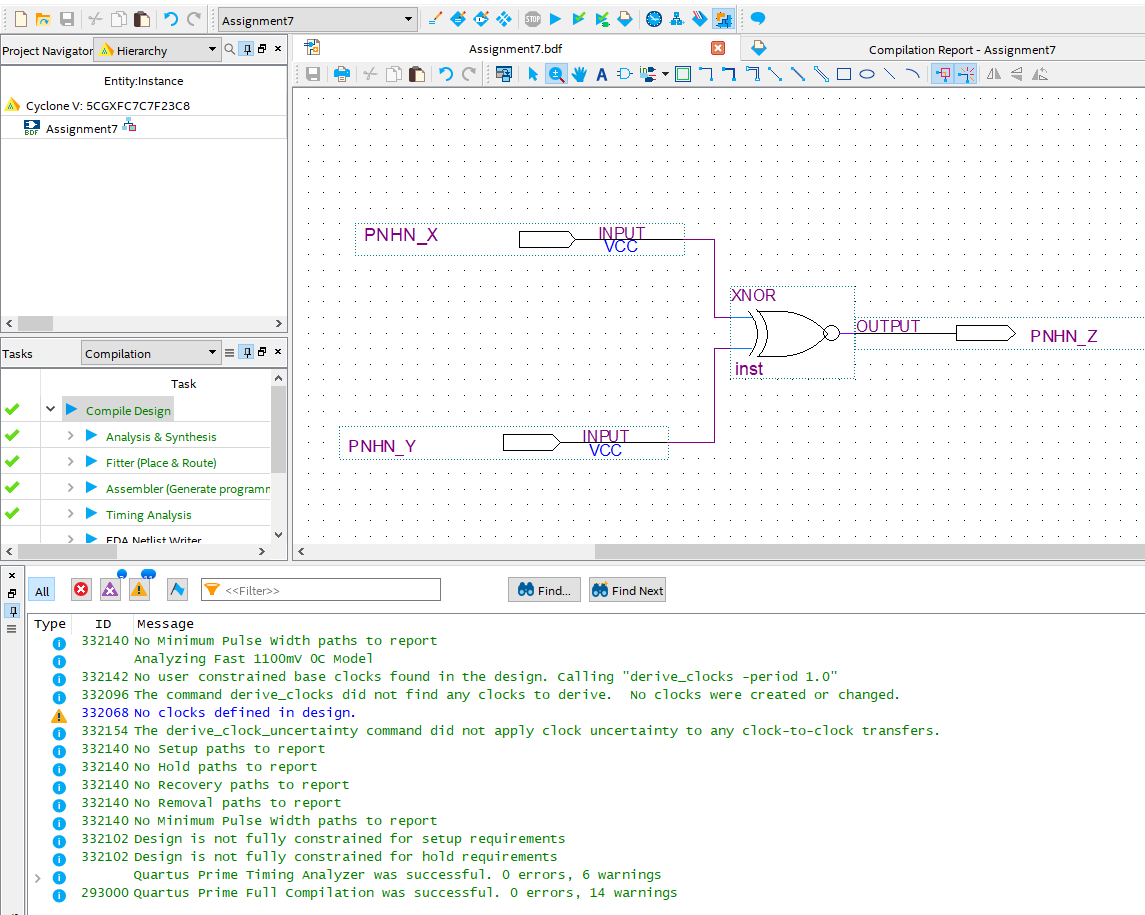
1. **Boolean/Logic Expression:**

**Z = XNOR**

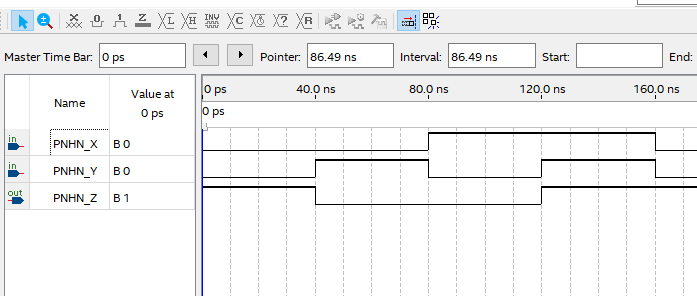
1. **Truth Table:**

| **X** | **Y** |  |
| --- | --- | --- |
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

1. **Diagram:**

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1. **Simulations:**

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