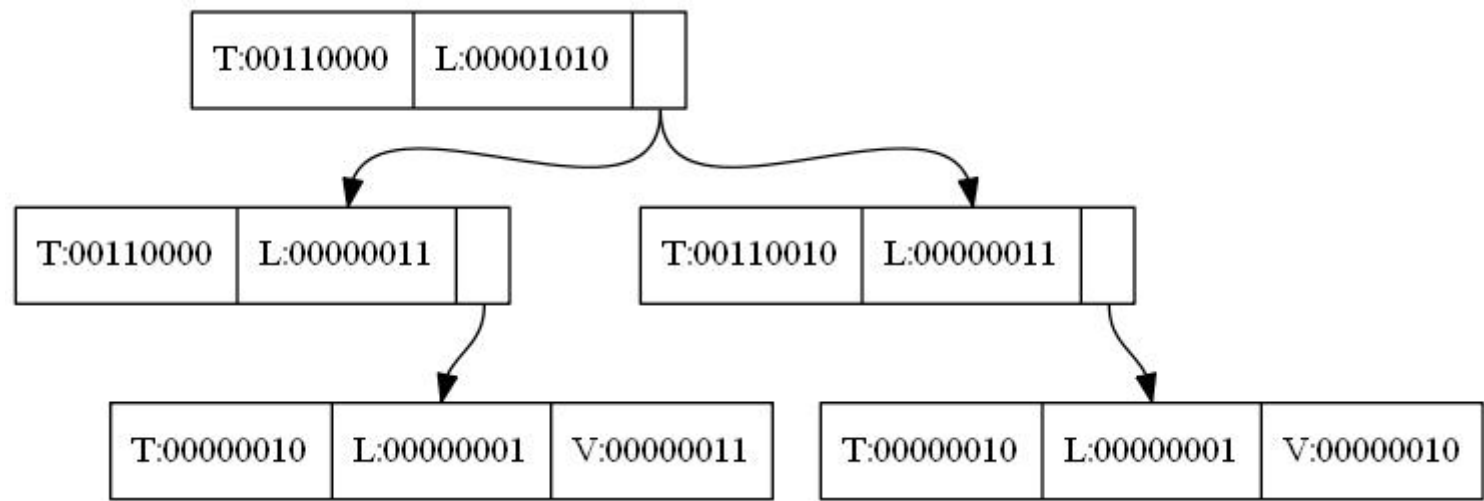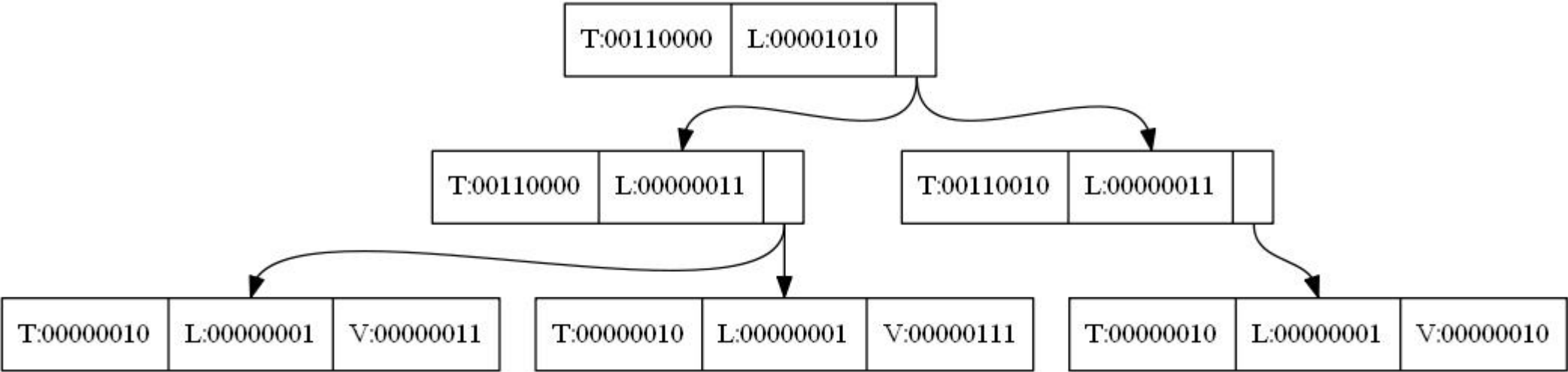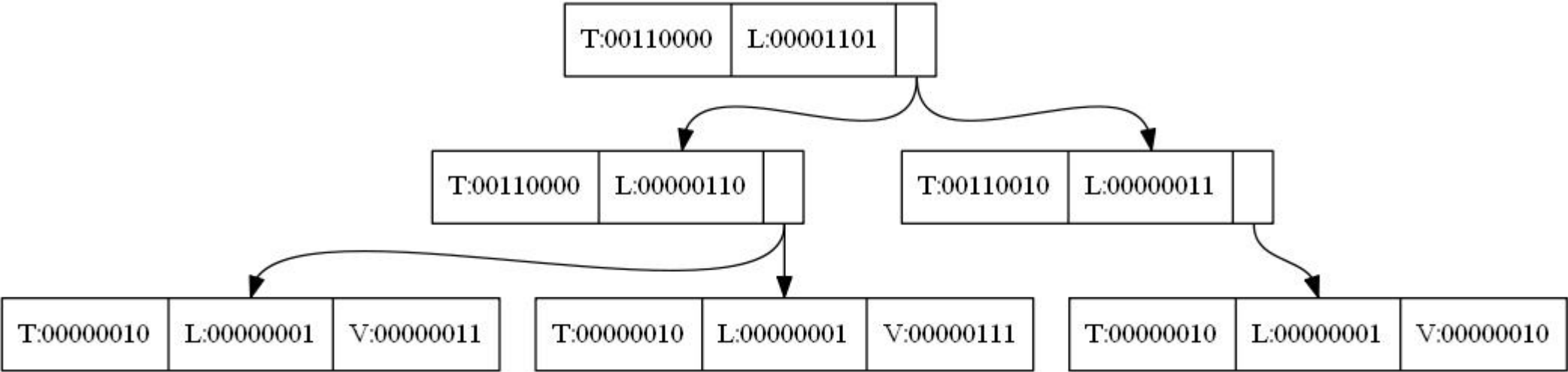Non-OID guided raw binary fragments:

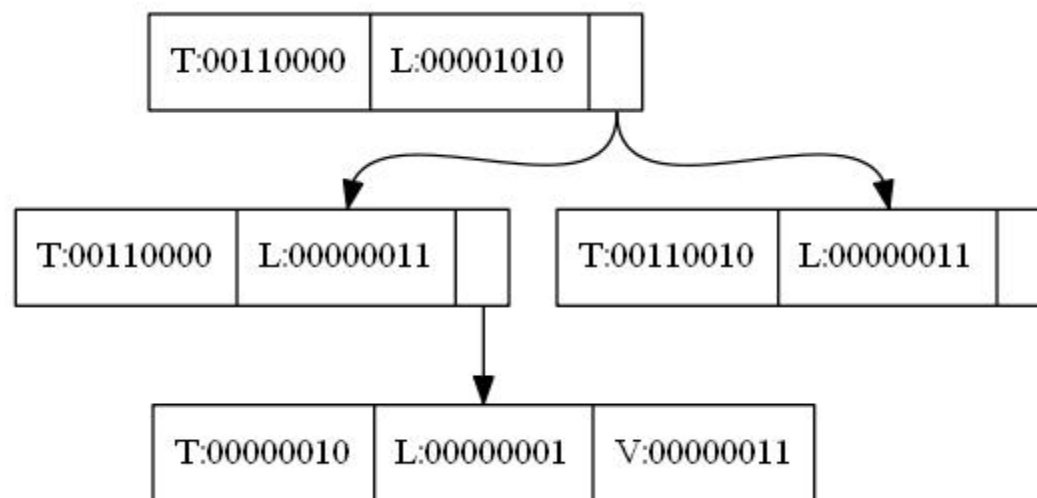Non-OID-guided binary fragments before adding leaf node repair:

Non-OID-guided binary fragment after adding leaf node repair:

Non-OID-guided binary fragment removal leaf node before repair:

T:00110000	L:00001010	

T:00110000	L:00000011	

T:00110010	L:00000011	

T:00000010	L:00000001	V:00000011

Non - OID - guided binary fragment removal after leaf node repair:
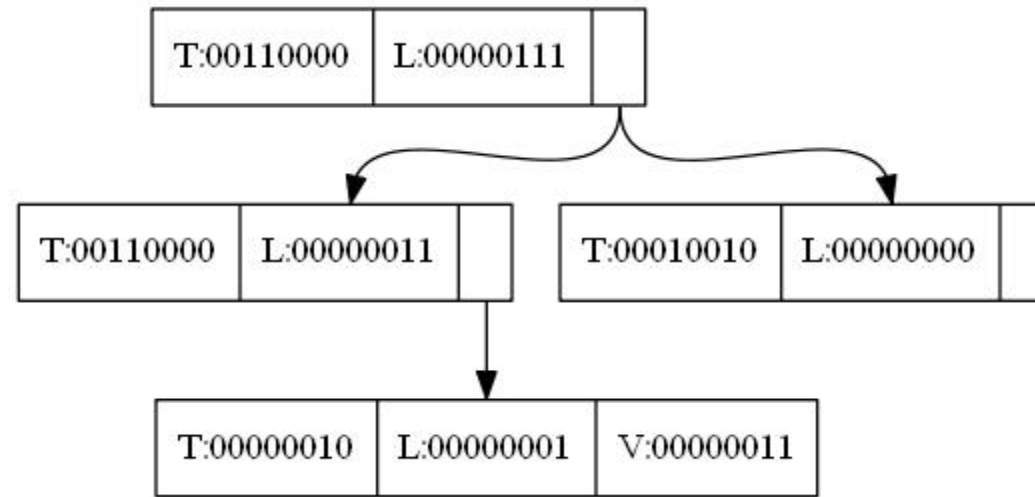
Non-OID-guided binary fragment leaf node variation:
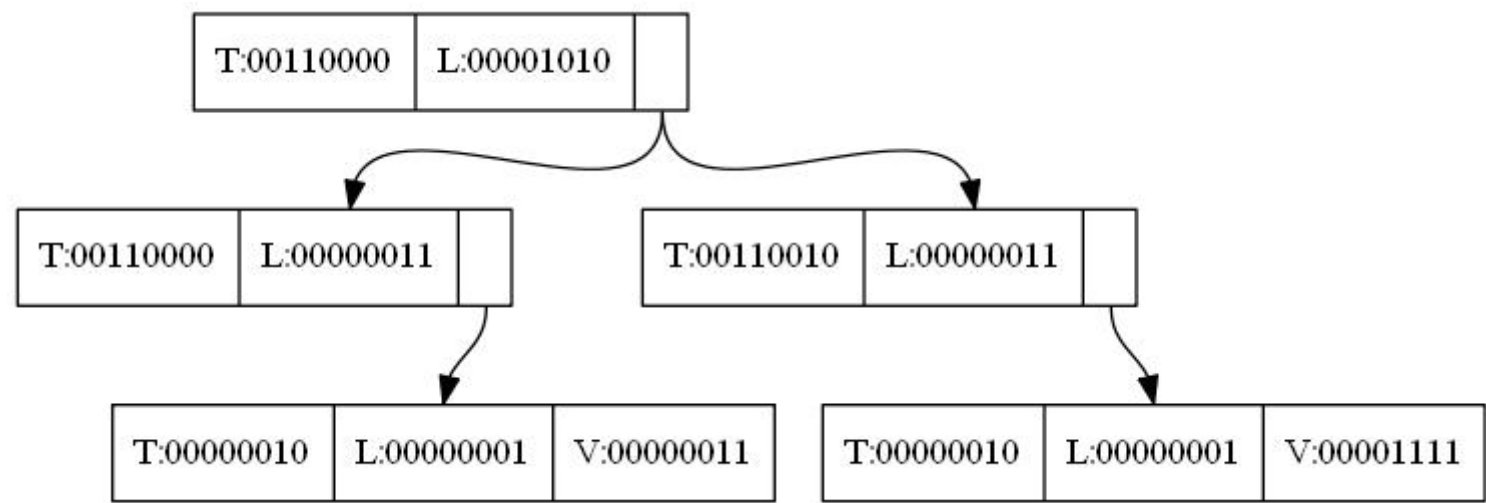
Non-OID-guided binary fragment before adding intermediate node repair:
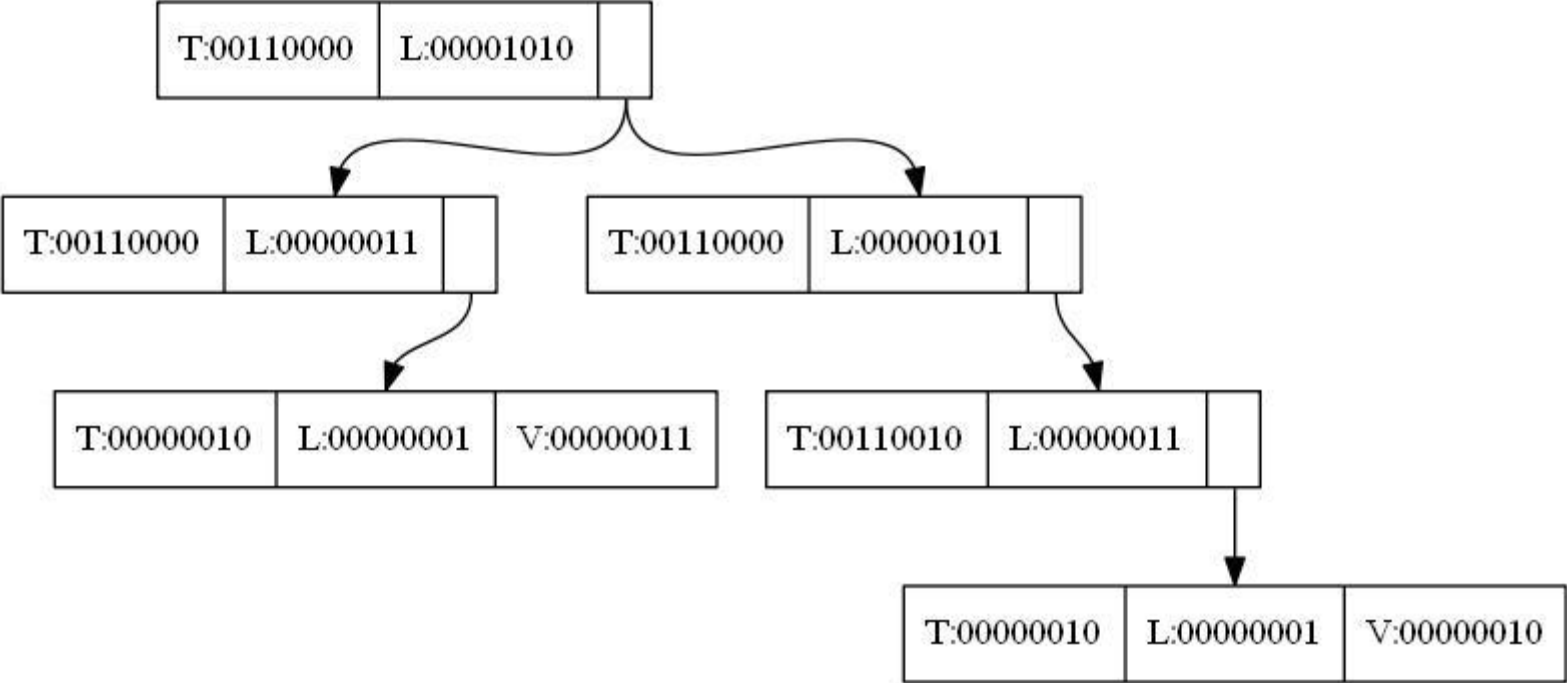
Non-OID-guided binary fragments after adding intermediate node repair:

T:00110000	L:00001010	

T:00110000	L:00000011	

T:00110000	L:00000101	

T:00000010	L:00000001	V:00000011

T:00110010	L:00000011	

T:00000010	L:00000001	V:00000010
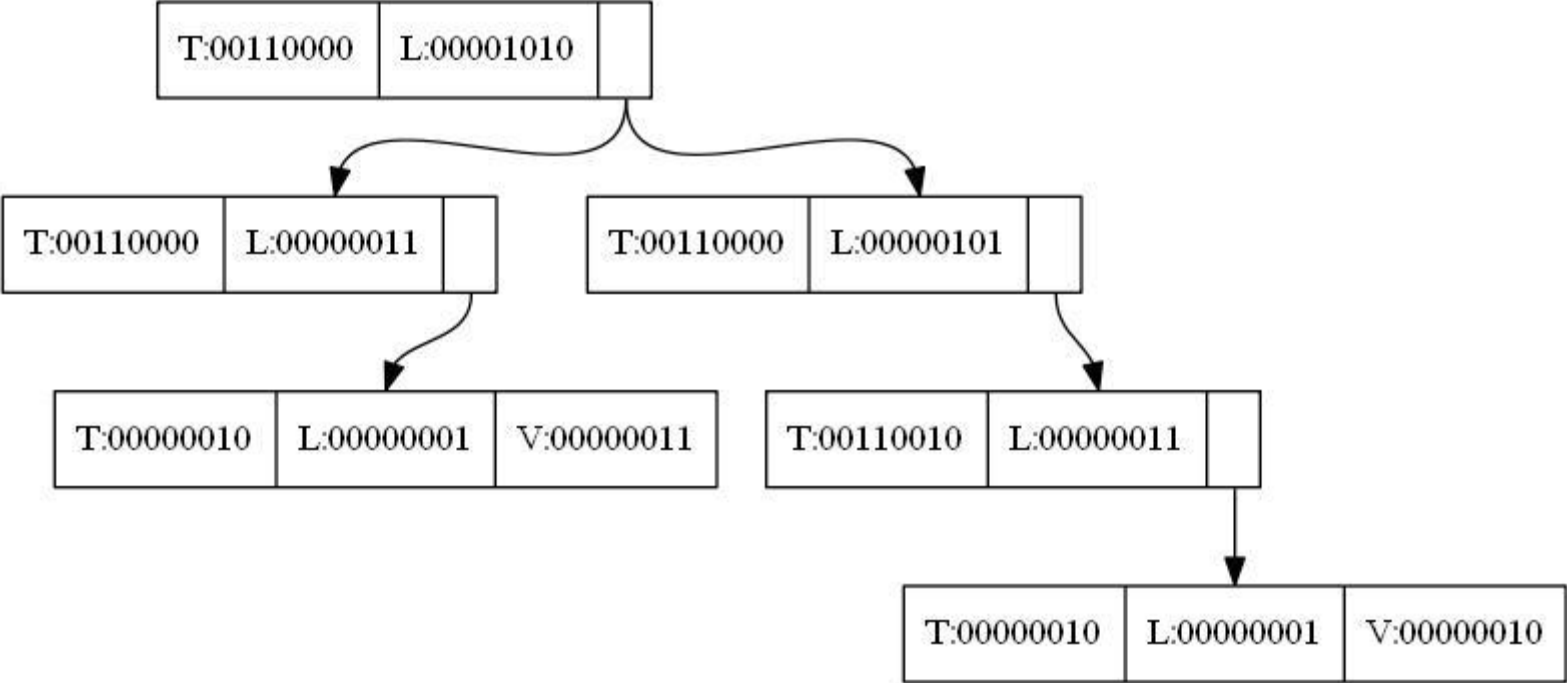
Non-OID guided binary fragment exchange intermediate node:

T:00110000	L:00001010	

T:00110010	L:00000011	

T:00110000	L:00000011	

T:00000010	L:00000001	V:00000011

T:00000010	L:00000001	V:00000010
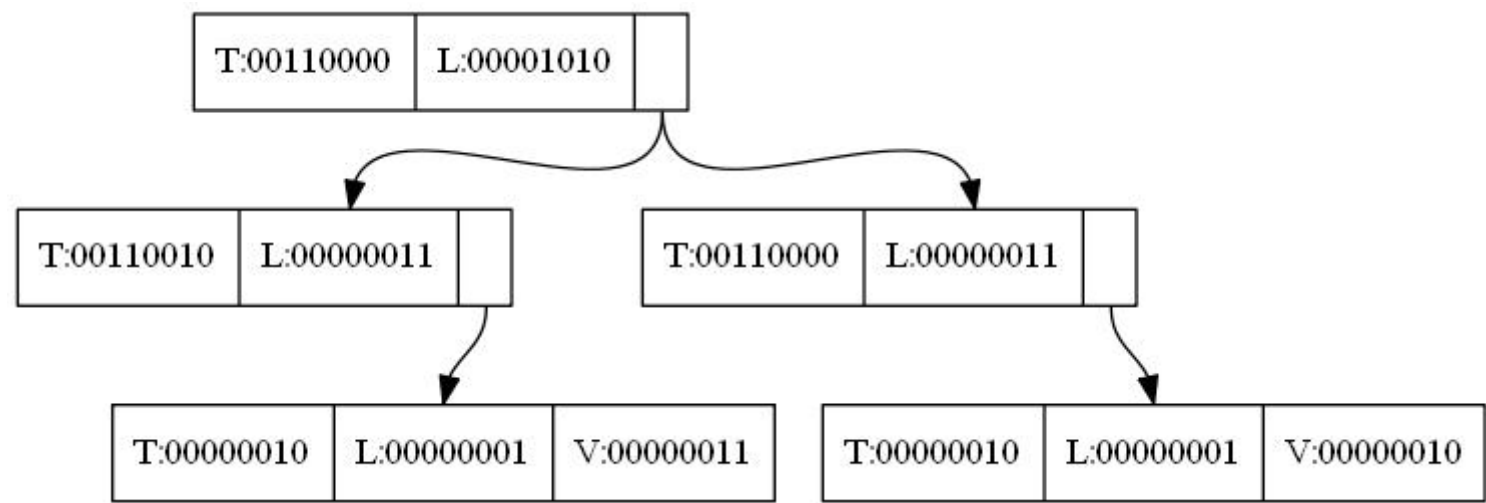
Non-OID guided binary fragment swap intermediate nodes are subtrees of the root node:

T:00110000	L:00001010	

T:00110010	L:00000011	

T:00110000	L:00000011	

T:00000010	L:00000001	V:00000010

T:00000010	L:00000001	V:00000011

Non-OID-guided binary fragment removal before intermediate node repair:

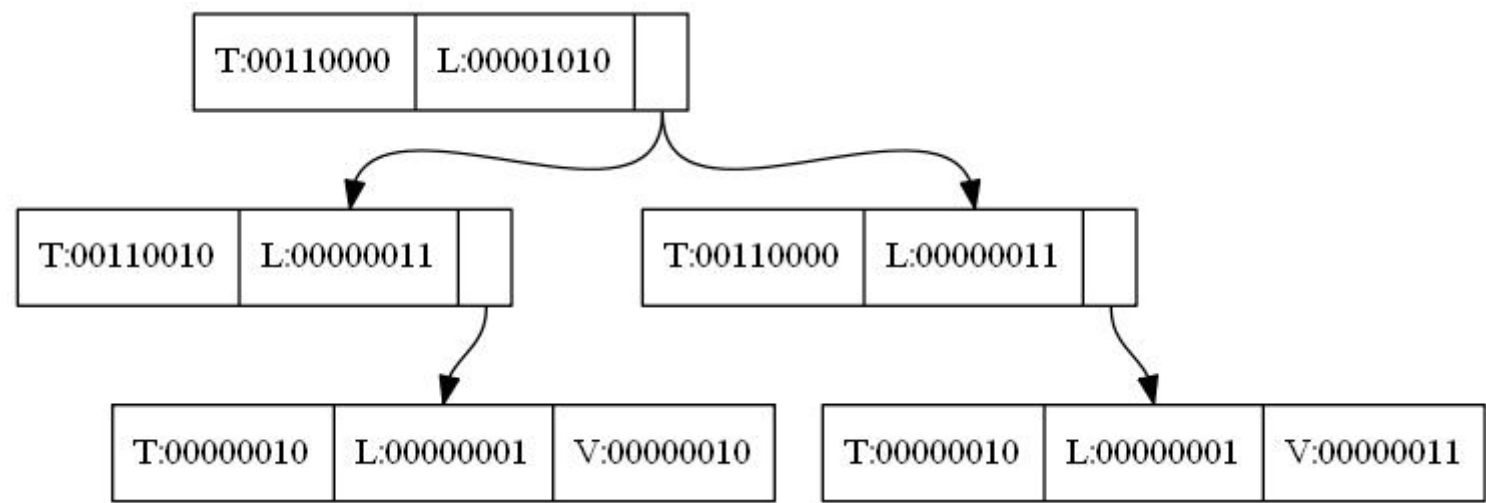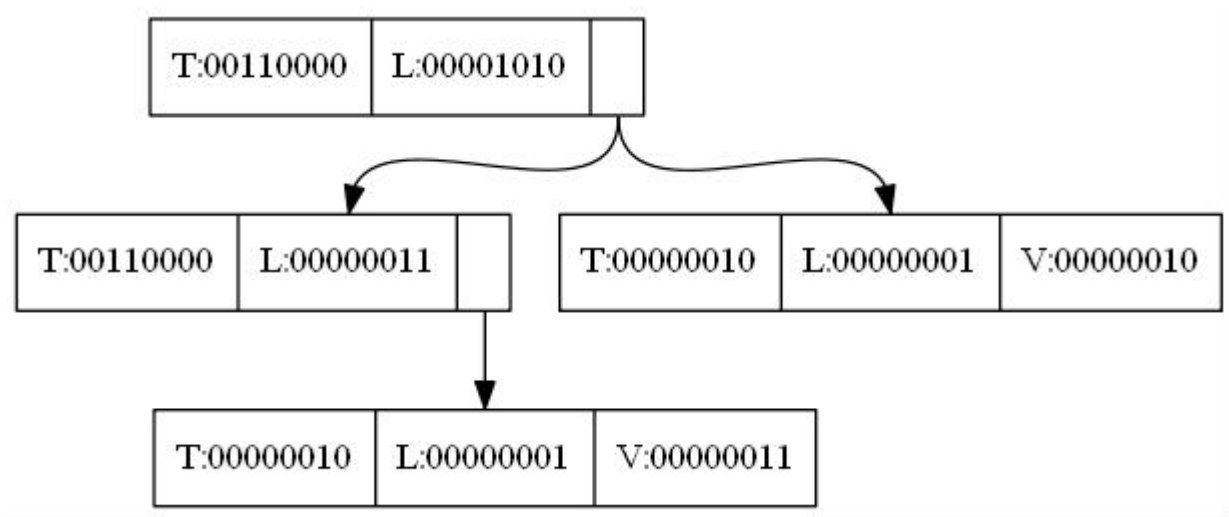Non-OID guided binary fragment after removal of intermediate node repair:
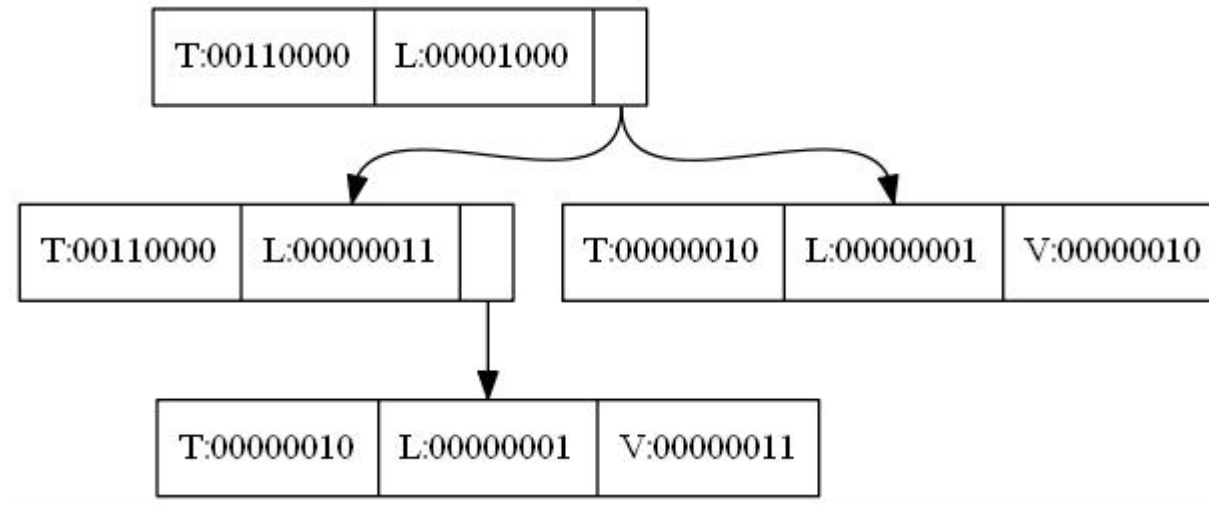
Non-OID-guided binary fragment removal before subtree repair with intermediate node as root:

| T:00110000 | L:00001010 | |

| T:00110000 | L:00000011 | |

| T:00000010 | L:00000001 | V:00000011 |
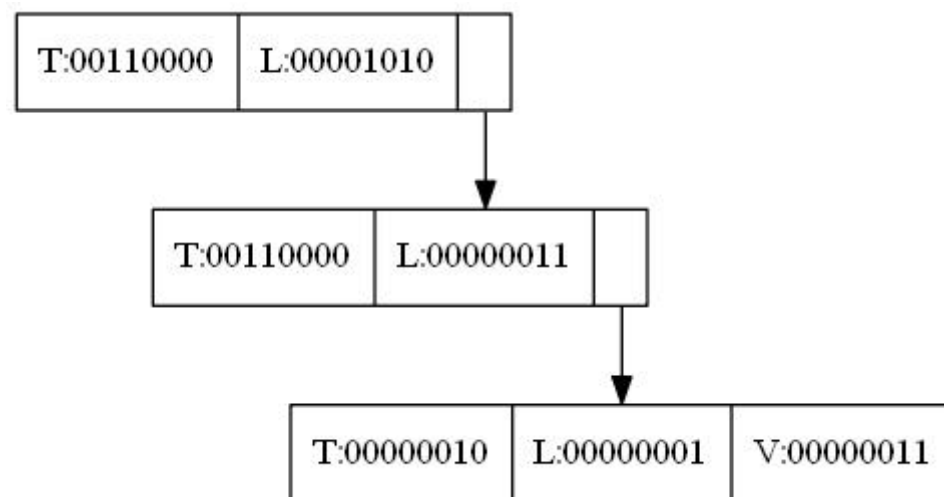
Non-OID-guided binary fragment after repair of subtree with intermediate node removed as root:

| T:00110000 | L:00000101 | |

| T:00110000 | L:00000011 | |

| T:00000010 | L:00000001 | V:00000011 |
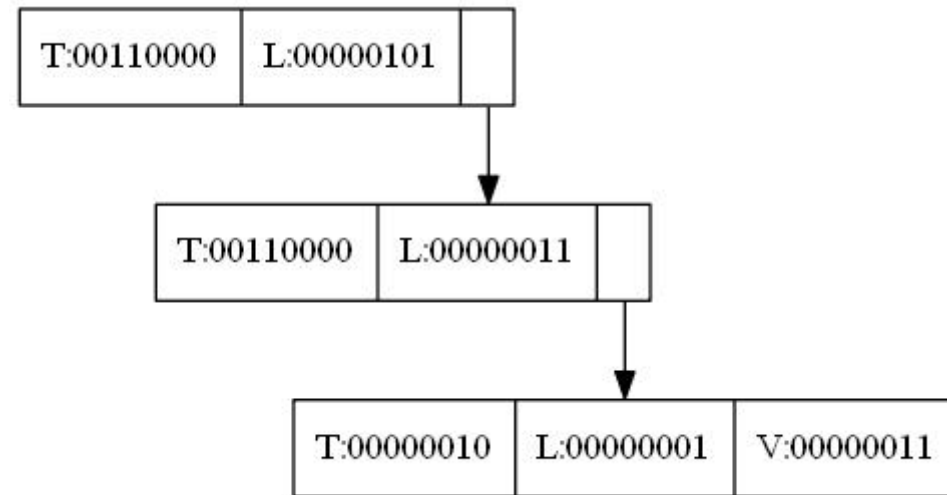
Original diagram of the OID-guided binary fragment (this OID is keyusage):

T:00110000 L:00010000

T:00000110 L:00000011 V:01010101 00011101 00001111

T:00000001 L:00000001 V: 11111111

T:00110000 L:00000110

unusedBits

T:00000100 L:00000100 V: 00000011 00000010 00000101 10100000

Keyusage
The key usage extension defines the purpose (e.g., encipherment, signature, certificate signing) of the key contained in the certificate.

TRUE
It indicates how important the OID is to the certificate

digitalSignature
keyEnciphermen

The keyEncipherment bit is asserted when the subject public key is used for enciphering private or secret keys, i.e., for key transport. For example, this bit shall be set when an RSA public key is to be used for encrypting a symmetric content-decryption key or an asymmetric private key.
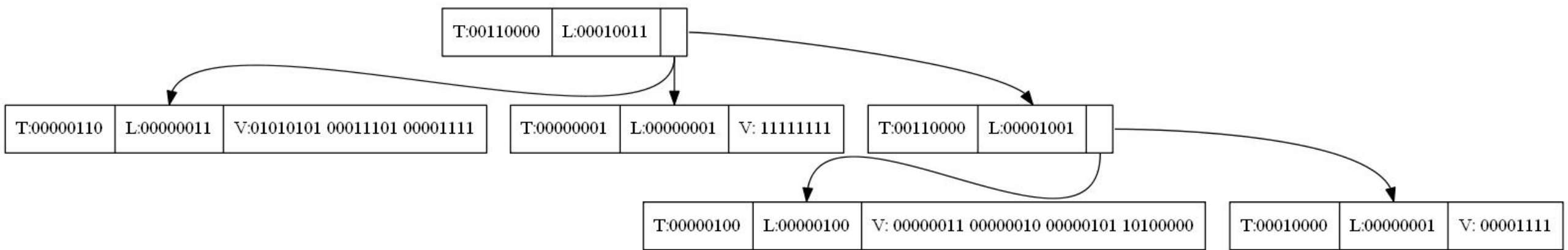
The digitalSignature bit is asserted when the subject public key is used for verifying digital signatures, other than signatures on certificates (bit 5) and CRLs (bit 6), such as those used in an entity authentication service, a data origin authentication service, and/or an integrity service.

OID-guided binary fragments before adding leaf nodes to the repair:
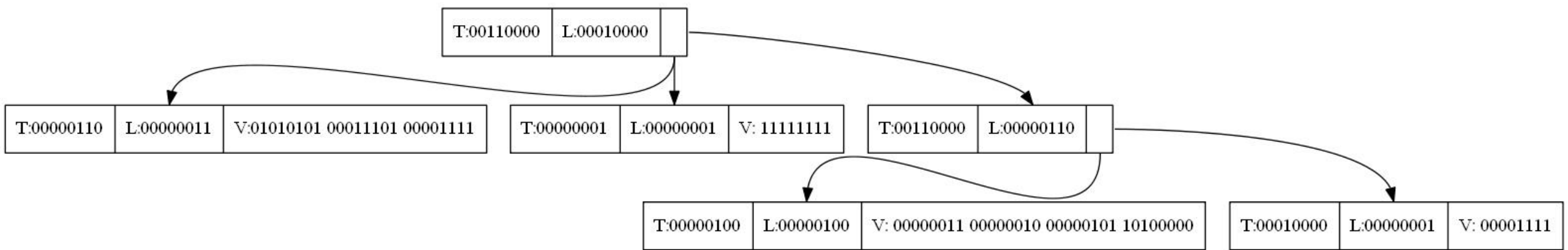
| T:00110000 | L:00010000 | |

OID-guided binary fragment after adding leaf node repair:

| T:00110000 | L:00010011 | |

| T:00000110 | L:00000011 | V:01010101 00011101 00001111 |

| T:00000001 | L:00000001 | V: 11111111 |

| T:00110000 | L:00001001 | |

| T:00000100 | L:00000100 | V: 00000011 00000010 00000101 10100000 |

| T:00010000 | L:00000001 | V: 00001111 |

OID-guided binary fragment removal before leaf node repair:

| T:00110000 | L:00010000 | |

| T:00000110 | L:00000011 | V:01010101 00011101 00001111 |

| T:00000001 | L:00000001 | V: 11111111 |

| T:00110000 | L:00000110 | |
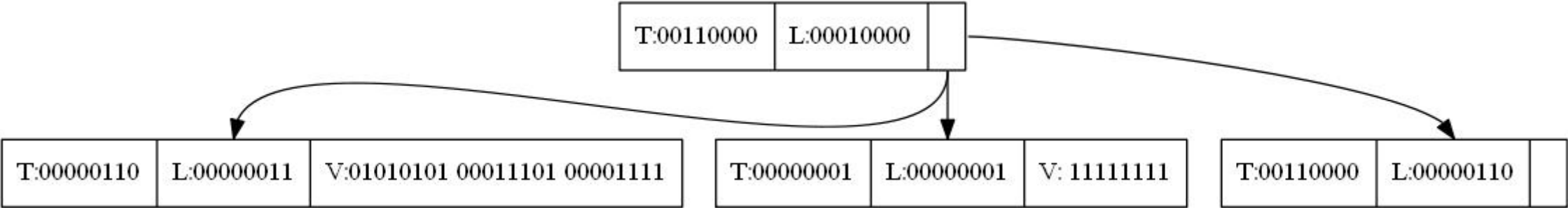
OID-guided binary fragments after leaf node removal repair:

T:00110000	L:00001010	

T:00000110	L:00000011	V:01010101 00011101 00001111

T:00000001	L:00000001	V: 11111111

T:00010000	L:00000000	
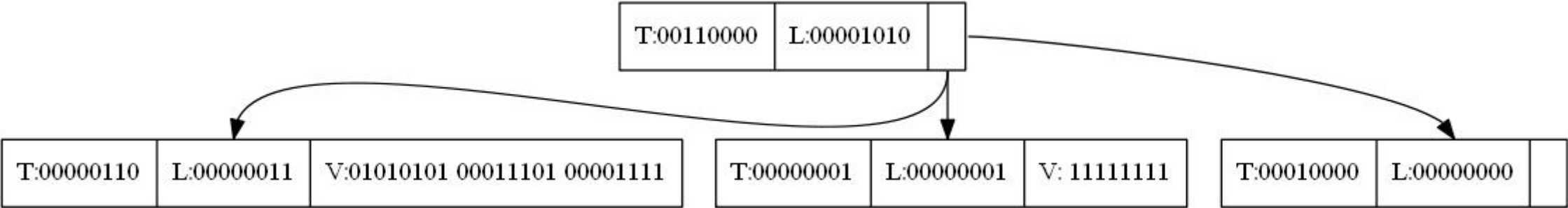
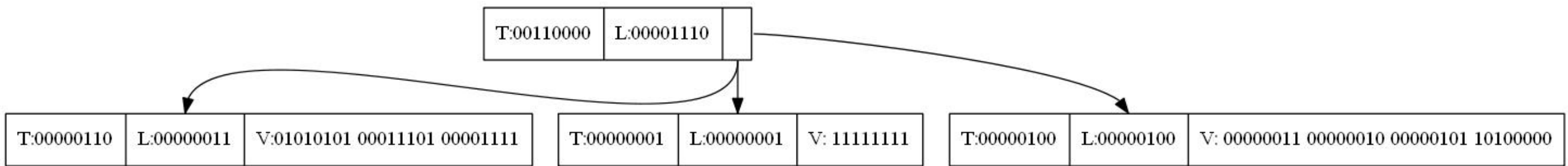OID-guided binary fragment leaf node value variants:
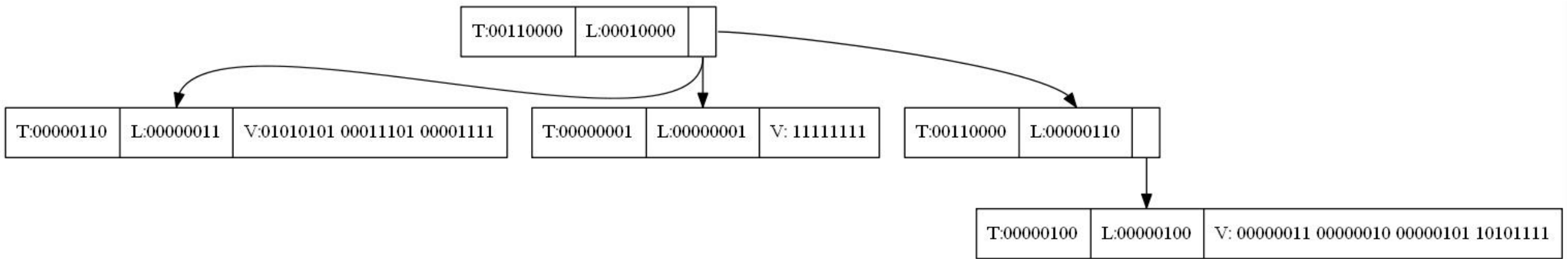
OID-guided binary fragment removal before intermediate node repair:
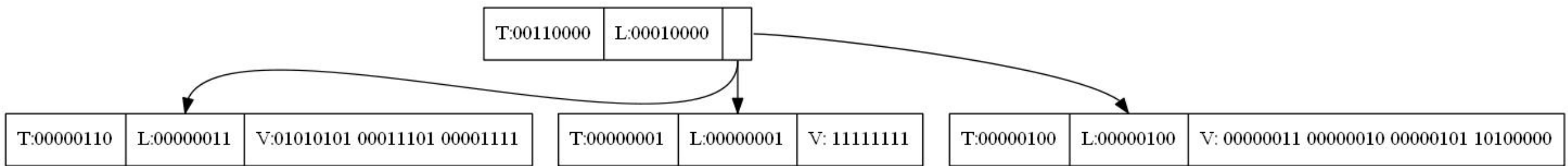
T:00110000	L:00010000	

T:00000110	L:00000011	V:01010101 00011101 00001111

T:00000001	L:00000001	V: 11111111

T:00000100	L:00000100	V: 00000011 00000010 00000101 10100000

OID-guided binary fragment after removal of intermediate node repair:

| T:00110000 | L:00001110 | |

| T:00000110 | L:00000011 | V:01010101 00011101 00001111 |

| T:00000001 | L:00000001 | V: 11111111 |

| T:00000100 | L:00000100 | V: 00000011 00000010 00000101 10100000 |

OID-guided binary fragment removal of subtree with intermediate node as root before repair:

T:00110000	L:00010000	

T:00000110	L:00000011	V:01010101 00011101 00001111

T:00000001	L:00000001	V: 11111111
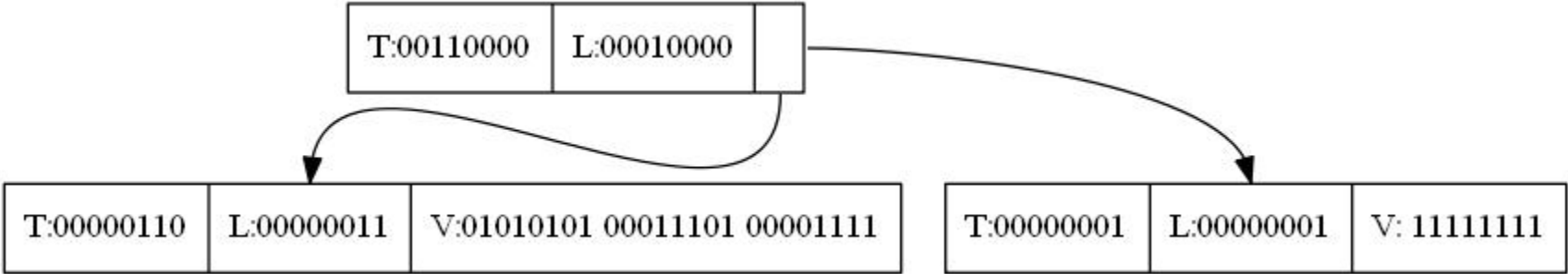
OID-guided binary fragment after repair of subtree with intermediate node as root:
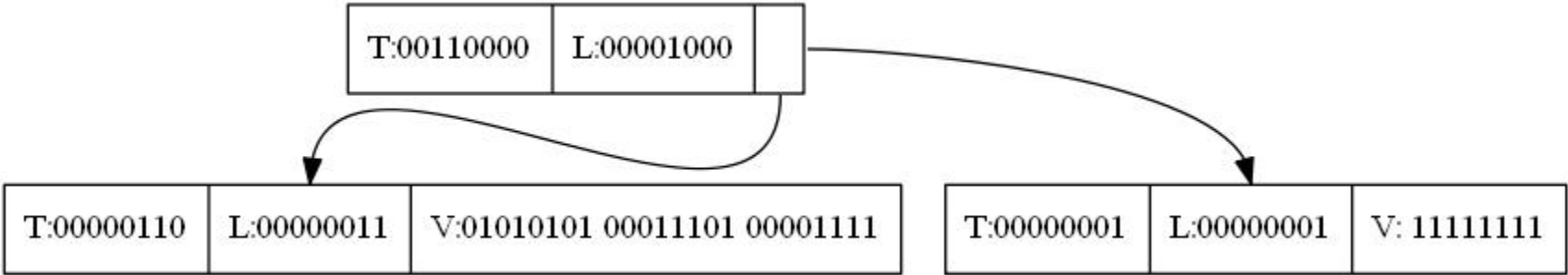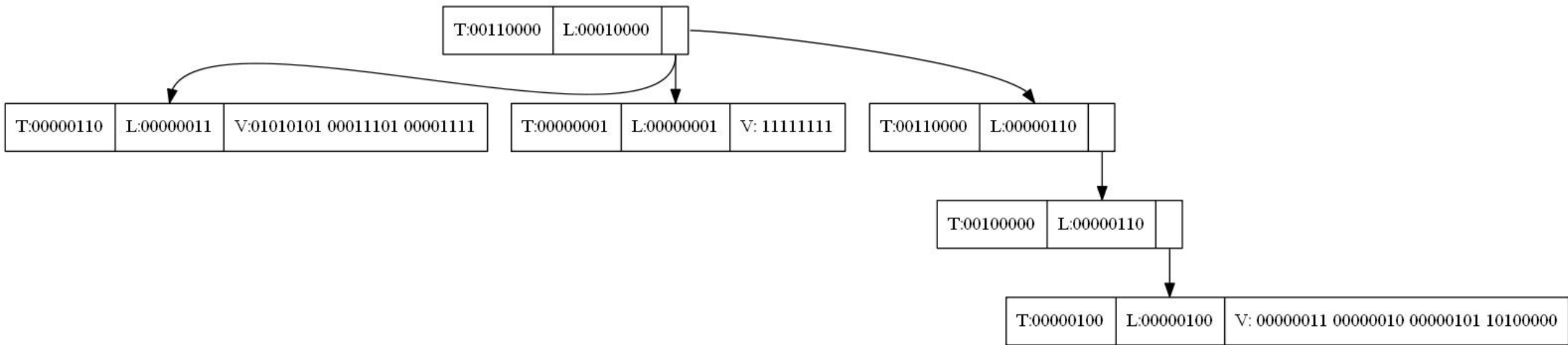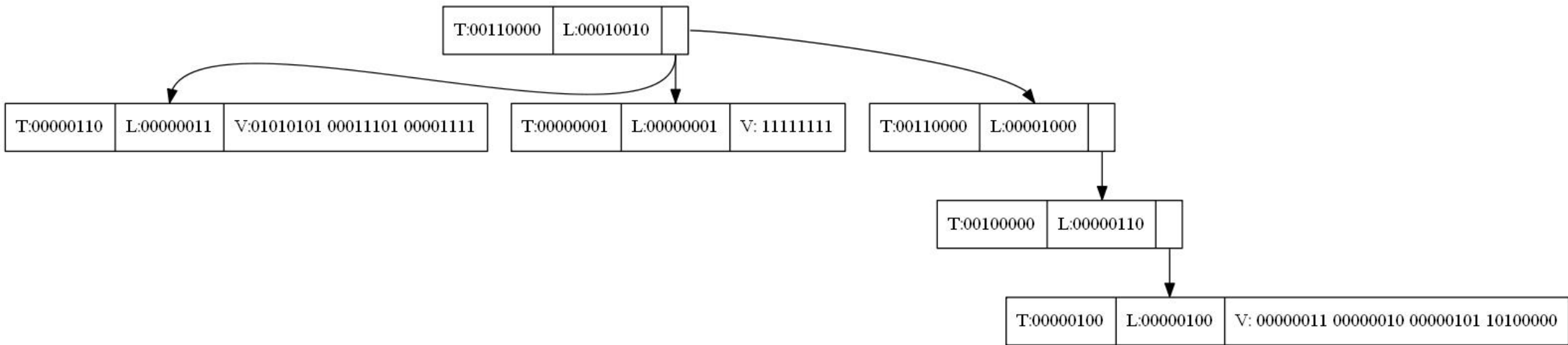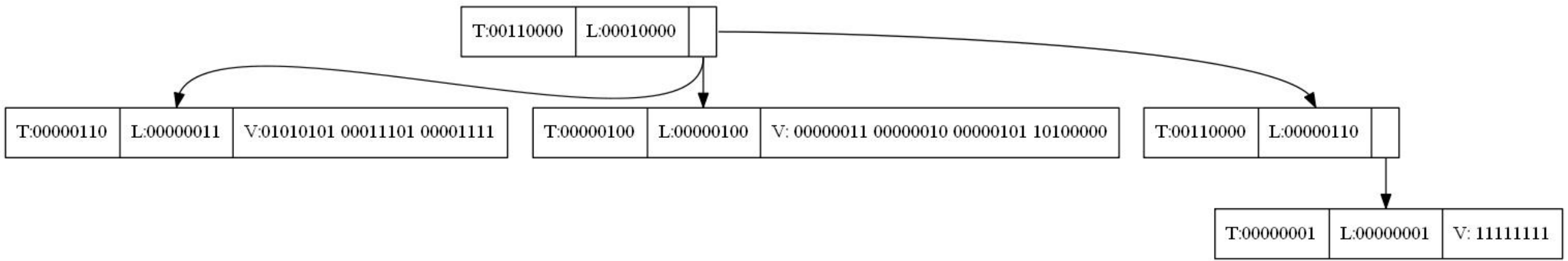
OID-guided binary fragment before adding intermediate node repair:

OID-guided binary fragment after addition of intermediate node repair:

OID-guided binary fragment interchange node position before repair:

T:00110000	L:00010000	

T:00000110	L:00000011	V:01010101 00011101 00001111

T:00000100	L:00000100	V: 00000011 00000010 00000101 10100000

T:00110000	L:00000110	

T:00000001	L:00000001	V: 11111111

OID-guided binary fragment swapping after node position repair:

| T:00110000 | L:00010000 | |

| T:00000110 | L:00000011 | V:01010101 00011101 00001111 |

| T:00000100 | L:00000100 | V: 00000011 00000010 00000101 10100000 |

| T:00110000 | L:00000011 | |

| T:00000001 | L:00000001 | V: 11111111 |