```cpp
#include <iostream>
using namespace std;

const char *c[] = {"Oopsmid-1", "MID", "OOP", "Exam"};
char const **cp[] = {c + 3, c + 2, c + 1, c};
char const ***cpp = cp;

int main() {
    cout<<* *(cpp + 1)<<endl;
    cout<<*( *  ( *(cpp + 2) + 2) + 3)<<endl;
    cout<<*(( *cpp) - 2)<<endl;
    cout<<*( *(cpp + 3) + 0) + 3<<endl;
}
```

Code Analysis

Declarations

1. **const char *c[]:**

    o   c is an array of pointers to constant character strings.

    o   It points to the following strings:

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```
c[0] = "Oopsmid-1";

c[1] = "MID";

c[2] = "OOP";

c[3] = "Exam";
```

2. **char const **cp[]:**

    o   cp is an array of pointers to pointers to constant characters.

    o   It points to specific elements of c in reverse order:

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cp[0] = c + 3;  // Points to "Exam"

cp[1] = c + 2;  // Points to "OOP"

cp[2] = c + 1;  // Points to "MID"
```

cp[3] = c;   // Points to "Oopsmid-1"

3. **char const ***cpp**:

- o   cpp is a pointer to a pointer to a pointer to a constant character.

- o   It points to the first element of cp, which is cp[0] (c + 3).

Expressions in main()

1. **cout << * *(cpp + 1) << endl;**

- o   **cpp + 1**: Moves to the next element of cp, i.e., cp[1] (c + 2).

- o   *** (cpp + 1)**: Dereferences cpp + 1 to get c + 2.

- o   *** * (cpp + 1)**: Dereferences c + 2 to get the string "OOP".

- o   **Output**: OOP.

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2. **cout << *(* (*(cpp + 2) + 2) + 3) << endl;**

- o   **cpp + 2**: Moves to the third element of cp, i.e., cp[2] (c + 1).

- o   *** (cpp + 2)**: Dereferences cpp + 2 to get c + 1.

- o   ***(cpp + 2) + 2**: Moves 2 elements forward from c + 1, pointing to c[3] ("Exam").

- o   *** (*(cpp + 2) + 2)**: Dereferences c[3] to get the string "Exam".

- o   *** (*(cpp + 2) + 2) + 3**: Moves 3 characters into "Exam", pointing to 'm'.

- o   **Output**: m.

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3. **cout << *((*cpp) - 2) << endl;**

- o   ***cpp**: Dereferences cpp to get cp[0] (c + 3).

- o   **(*cpp) - 2**: Moves 2 elements back from c + 3, pointing to c[1] ("MID").

- o   *** ((*cpp) - 2)**: Dereferences c[1] to get the string "MID".

- o   **Output**: MID.

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4. **cout << *(*(cpp + 3) + 0) + 3 << endl;**

- o   **cpp + 3**: Moves to the fourth element of cp, i.e., cp[3] (c).

- o   *** (cpp + 3)**: Dereferences cpp + 3 to get c.

- o   *** (*(cpp + 3) + 0)**: Dereferences c[0] to get the string "Oopsmid-1".

- *(*(cpp + 3) + 0) + 3*: Moves 3 characters into "Oopsmid-1", pointing to 's'.
- **Output**: s.

Program Output

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OOP

m

MID

smid-1