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//CHAPTER 5 Example 5
//The following program reads the letter codes A
to Z and prints the corresponding telephone
//digit. This program uses a sentinel-controlled
while loop. To stop the program, the user is
//prompted for the sentinel, which is #. This is also
an example of a nested control structure, where
if...else
//and the while loop are nested
```

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

```
// NAME: TEMILOLUWA ADESOLA
// JNUMBER: J00931199
```

```
int main()
{
    char letter;
    int digit, num;

    cout << "Program to convert uppercase letters to
their telephone digits "
        << "their corresponding telephone digits" <<
endl;

    cout << "To stop the program enter #." << endl;

    cout << "Enter an uppercase letter: ";
    cin >> letter;
    cout << endl;

    while (letter != '#')
    {
        cout << "Letter: " << letter;
        cout << "' Corresponding telephone digit: ";
        num = static_cast<int>(letter) -
static_cast<int>('A');
```

```

    if (0 <= num && num < 26)
    {
        digit = (num / 3) + 2;

        if (((num / 3 == 6 ) || (num / 3 == 7)) && (num
% 3 == 0)) digit = digit - 1;
        if (digit > 9) digit = 9;

        cout << digit << endl;
    }
    else
        cout << "Invalid input." << endl;
    cout << "\nEnter another uppercase "
        << "letter to find its corresponding "
        << "telephone digit." << endl;
    cout << "To stop the program enter #."
        << endl;

    cout << "Enter a letter: ";
    cin >> letter;
    cout << endl;
}
return 0;

}

```