**Lab Exercise 5**

//\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

// Program: Telephone Digits

// This is an example of a sentinel-controlled loop. This

// program converts uppercase letters to their corresponding

// telephone digits.

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#include <iostream> //Line 1

using namespace std; //Line 2

int main() //Line 3

{ //Line 4

char letter; //Line 5

int digit, num; //Line 6

cout << "Program to convert uppercase letters to "

<< "their corresponding telephone digits."

<< endl; //Line 8

cout << "To stop the program enter #." << endl; //Line 9

cout << "Enter an uppercase letter: "; //Line 10

cin >> letter; //Line 11

cout << endl; //Line 12

while (letter != '#') //Line 13

{ //Line 14

cout << "Letter: " << letter; //Line 15

cout << ", Corresponding telephone digit: "; //Line 16

num = static\_cast<int>(letter)

- static\_cast<int>('A'); //Line 17

if (0 <= num && num < 26) //Line 18

{ //Line 19

digit = (num / 3) + 2; //Line 20

if (((num / 3 == 6 ) || (num / 3 == 7)) //Line 21

&& (num % 3 == 0)) //Line 22

digit = digit - 1; //Line 23

if (digit > 9) //Line 24

digit = 9; //Line 25

cout << digit << endl; //Line 26

} //Line 27

else //Line 28

cout << "Invalid input." << endl; //Line 29

cout << "\nEnter another uppercase "

<< "letter to find its corresponding "

<< "telephone digit." << endl; //Line 30

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

<< endl; //Line 31

cout << "Enter a letter: "; //Line 32

cin >> letter; //Line 33

cout << endl; //Line 34

}//end while //Line 35

return 0; //Line 36

} //Line 37

**To do:**

**Run the above program.**

**Explain the working.**

**Based on the above , provide your answer for Lab question 5**