QT GUI Design

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1 GUI DESIGN IN QT

1.1 PROBLEM STATEMENT

1. Design a user interface(GUI) in Qt. The user will be asked to enter a number in numeric (say, 55) and will be provided a button named âĂIJConvert to textâĂİ. On pressing this button, the entered number should be displayed in words (fifty five).

2. Add one more feature to the above GUI, which will enable user to enter a number in text (fifty five). Add one button named âĂIJConvert to NumberâĂİ, on pressing which the entered number in words will be shown in numeric digits (55).

1.2 ABSTRACT

Qt is a cross-platform application framework that is widely used for developing application software with a graphical user interface (GUI) (in which cases Qt is classified as a widget toolkit), and also used for developing non-GUI programs such as command-line tools and consoles for servers. Qt uses standard C++ but makes extensive use of a special code generator (called the Meta Object Compiler, or moc) together with several macros to enrich the language. Qt can also be used in several other programming languages via language bindings. It runs on the major desktop platforms and some of the mobile platforms. It has extensive internationalization support. Non-GUI features include SQL database access, XML parsing, thread management, network support, and a unified cross-platform application programming interface (API) for file handling.

Qt is available under a commercial license, GPL v3 and LGPL v2. All editions support many compilers, including the GCC C++ compiler and the Visual Studio suite.

Qt is developed by Digia, who owns the Qt trademark, and the Qt Project under open governance, involving individual developers and firms working to advance Qt. Before the launch of the Qt Project, it was produced by Nokia's Qt Development Frameworks division, which came into existence after Nokia's acquisition of the Norwegian company Trolltech, the original producer of Qt. In February 2011, Nokia announced its decision to drop Symbian technologies and base their future smartphones on Microsoft platform instead. One month later, Nokia announced the sale of Qt's commercial licensing and professional services to Digia, with the immediate goal of taking Qt support to Android, iOS and Windows 8 platforms, and to continue focusing on desktop and embedded development, although Nokia was to remain the main development force behind the framework at that time.

The code is written in Qt using recursion and functions, the code is explained logically in a flow chart and in its logical implementation. the logic is mainly based on the fact that the input is to be seperated into sets of 3 numbers appropriately.

1.3 Specification And Assumptions

Tool Specifications:
Qt Creat ior Version 2.4.1
Platform: Ubuntu 12.04
Bash Version: GNU bash, version 4.2.25(1)-release (x86_64-pc-linux-gnu)

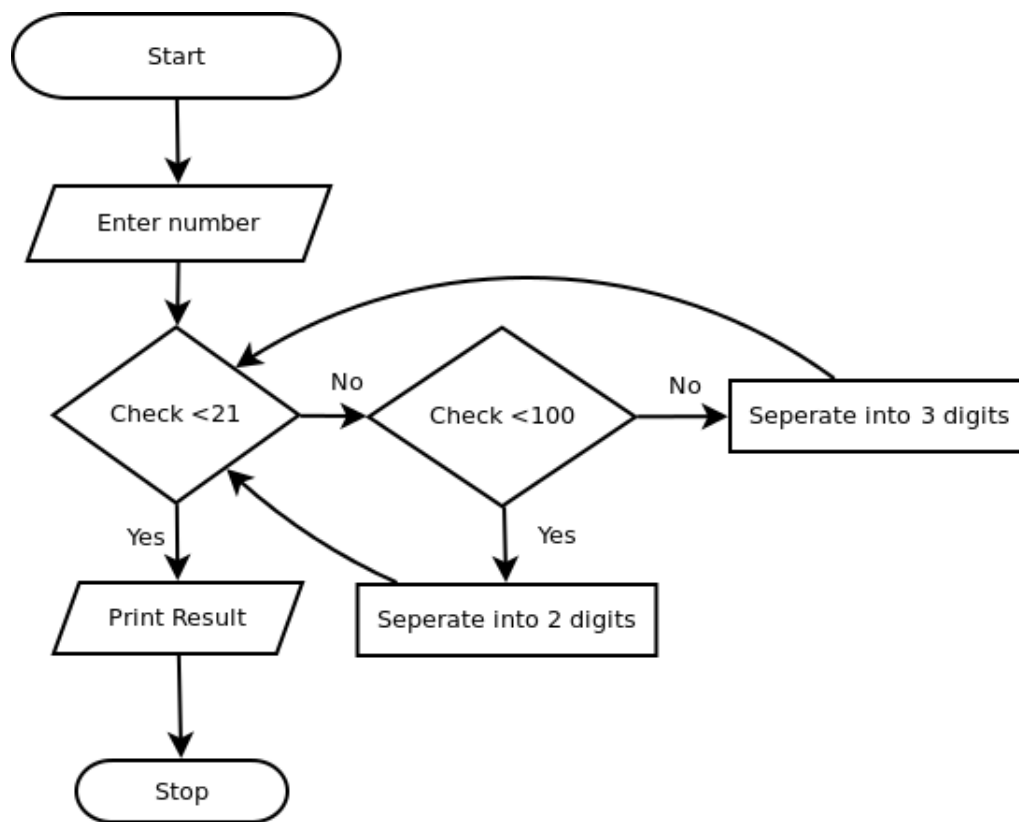**Problem specifications**: Assume the following utilities are present on the system
C++ compliler
Also works if input is negative

Assumptions
The text is printed seperating words using spaces

1.4 FLOW CHART

The flowcharts is as follows

```
                    Start
                      |
                      v
               Enter number
                      |
                      v
              /               No      /              No
             / Check <21 \------->  / Check <100 \------>  [ Seperate into 3 digits ]
             \           /          \            /
              \         /            \          /
                  |                      |
                 Yes                    Yes
                  |                      |
                  v                      v
            Print Result        [ Seperate into 2 digits ]
                  |
                  v
                 Stop
```
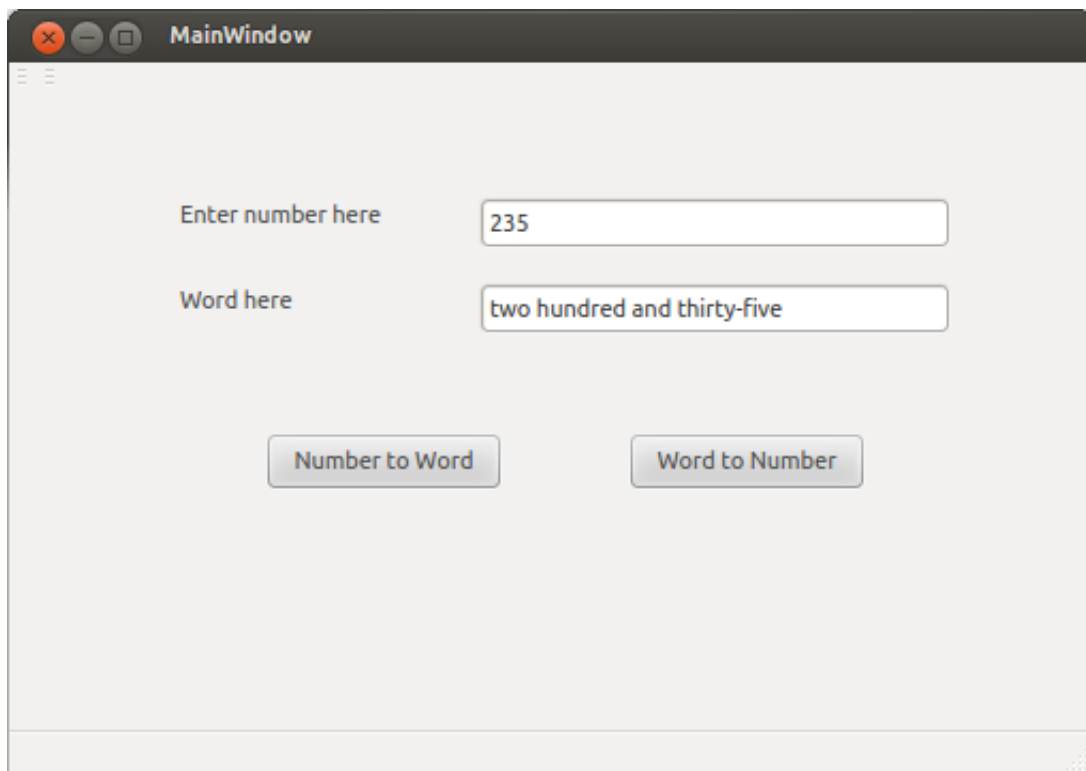
1.5 LOGIC IMPLEMENTATION

1. Take input from the line box

2. If number is less than 21, print expansion from stored texts and goto step 7

3. If number is less than 100, seperate into digits and goto step 2

4. Else, seperate into 3 digits each and assign each 1000s seperator

5. For each 3 digit group, add million or billion etc. to expansion

6. Goto step 3

7. Stop

1.6 EXECUTION DIRECTIVE

rightclick main.cpp and open in Qt creator
run the program by clicking green button

1.7 OUTPUT OF THE PROGRAM

1.8 RESULT

Successfully converts a number entered into its expansion when clicked on the expand button **Problems encountered:**

1. Write permissions error

2. Execute rights error

Solution: check and set permissions using chmod
In Unix-like operating systems, chmod is the name of a Unix shell command and a system call, which both change the access permissions to file system objects (including files and directories), as well as specifying special flags.

1.9 CONCLUSION

The entered number is converted into text successfully
Designing in Qt is understood effectively.