Subject: Programming Language and Compiler Design Lab Assignment

Lab Assignment Week 1 : Programming Languages

In Context to programming language C perform followings.

1. Topic : Internal Representation
   Write a small piece of code, without using operator sizeof(), to obtain size of
   i. Data types e.g. int, char, float, long, short, double.
   ii. Pointer to int, char, float, long, short, double.
   iii. Array of primitive data types i.e. int, char, float, long, short, double.
   iv. Structure of good mix of primitive data types i.e. int, char, float, long, short, double.
   v. Union of good mix of primitive data types i.e. int, char, float, long, short, double.

2. Topic : Internal Representation
   Write a small piece of code to find internal representation of integers, characters , and real numbers, in terms of endian <little/big>.
   Hint: little endian means lower significant bytes at lower address location; Big endian means lower significant bytes at higher address location.

3. Separate Compilation :
   Write a program having main program and functions in separate files, compile them separately and make a common executable by combining them.
   Note: Don't use #include, since this will insert the code before compilation, however for stdio.h this may be used.

```
<<In filem.c>>      main() {
                        printf("Welcome begin of main program\n");
                        fun1(); /* calling a function in other file1.c */
                        printf("Good bye from main program\n");
                        }
<<In file1.c>>      fun1() {
                        printf("Welcome at starting of fun1 sub-program\n");
                        fun2();/* calling a function in other file2.c */
                        printf("Good bye from end of fun1 sub-program \n");
                        }
<<In file2.c>>      fun2() {
                        printf("Now inside fun2 sub-program\n");
                        }
```