

系所別:

資訊工程學系

科目:

計算機概論

網路學習科技研究所

四、(15%) Please draw a binary tree that you could use to store the letters A through M in order.

五、(20%) The eXtensible Markup Language (XML) is a standardized style for designing notational systems for representing data as text file. Following the XML standard, many other markup languages have been developed for different purpose of representation, for example SMIL is for multimedia representation, and MathML is for mathematic representation. Please list five more markup languages that are developed by following XML standard.

六、(30%) 請將以下程式執行後的輸出寫出來。

```
#include <stdio.h>
void a( void ); /* function prototype */
void b( void ); /* function prototype */
void c( void ); /* function prototype */
int x = 1; /* global variable */
int main()
{
    int x = 5; /* local variable to main */
    printf("local x in outer scope of main is %d\n", x);
    {
        /* start new scope */
        int x = 7;
        printf("local x in inner scope of main is %d\n", x);
    }
    /* end new scope */
    printf("local x in outer scope of main is %d\n", x);
    a(); /* a has automatic local x */
    b(); /* b has static local x */
    c(); /* c uses global x */
    a(); /* a reinitializes automatic local x */
    b(); /* static local x retains its previous value */
    c(); /* global x also retains its value */
    printf("local x in main is %d\n", x);
    return 0;
}
void a( void )
{
    int x = 25; /* initialized each time a is called */
    printf("\nlocal x in a is %d after entering a\n", x);
    ++x;
    printf("local x in a is %d before exiting a\n", x);
}
void b( void )
{
    static int x = 50; /* static initialization only */
    /* first time b is called */
    printf("\nlocal static x is %d on entering b\n", x);
    ++x;
    printf("local static x is %d on exiting b\n", x);
}
void c( void )
{
    printf("\nglobal x is %d on entering c\n", x);
    x *= 10;
    printf("global x is %d on exiting c\n", x);
}
```

