Homework 3

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1. Assume that each integer variable occupies four bytes. How much total space is required for the variables in this code? Justify your answer.

```
{ int a, b, c;
    ...
    { int d, e;
        ...
        { int f;
            ...
        }
        ...
    }
    ...
    { int g, h, i;
        ...
    }
    ...
}
```

The variables will occupy 24 bytes total because up to 6 variables exist in a given scope at a time.

2. Assuming static scope, what is the referencing environment (i.e., what names are known, and what do they refer to) at the location marked by (*)?

```
procedure P (A,B: real)
    X: real
    procedure Q (B,C: real)
        Y: real
        ...
    procedure R (A,C: real)
        Z: real
        ... // (*)
    ...
```

P, Q, R, A, B, C, X, and Z are known. P, Q, R refer to the procedures. B refers to P's parameter. X refers to the variable defined in P. A, C refer to R's parameters. Z refers to the variable defined in R.