Sample Questions: SICP Section 2.4

Data-directed programming and generic operators.

1. Define a version of the *apply-generic* function for binary operators. Do not implement a variadic function. Do not implement any error checking.

2. Redefine the *make-rat* procedure to use a dispatch function. Handle the messages, *numer*, *denom*, and *mult*.

3. Define a version of the *apply-generic* function for binary operators in which the operands are message passing procedures. Do not implement a variadic function. Do not implement any error checking.

4. Consider re-implementing *apply-generic* (from the text) for just binary operations on tagged data. If no error checking is to be performed, what would be a valid function body? Assume the formal parameters are *op*, *left*, and *right* and that functions installed in the operator table work on tagged operands. Choose the correct answer with the fewest number of printable characters.

   (A)
```
(apply
    (get op (type-tag left) (type-tag right))
    (list left right))
```
   (B)
```
((get op (map type-tag (list left right)))
    left
    right)
```
   (C)
```
((get op)
    left
    right)
```
   (D)
```
(apply
    (get op (map type-tag (list left right)))
    (list left right))
```
   (E)
```
((get op (type-tag left) (type-tag right))
    left
    right)
```
   (F)
```
(op
    left
    right)
```