

1. How does a decimal value waste memory space?
2. What significant justification is there for the `->` operator in C and C++?
3. What are all of the differences between the enumeration types of C++ and those of Java?
4. Design a set of simple test programs to determine the type compatibility rules of a C compiler to which you have access. Write a report of your findings.
5. Run the following code on some system that supports C to determine the values of `sum1` and `sum2`. Explain the results.

Let the function `fun` be defined as

```
int fun(int *k) {  
    *k += 4;  
    return 3 * (*k) - 1;  
}
```

Suppose `fun` is used in a program as follows:

```
void main() {  
    int i = 10, j = 10, sum1, sum2;  
    sum1 = (i / 2) + fun(&i);  
    sum2 = fun(&j) + (j / 2);  
}
```

6. Rewrite the previous program of in C++, Java, and C#, run them, and compare the results.