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#include <bits/stdc++.h>
#define bucketSize 512
using namespace std;
void bktInput(int a, int b) {
    if (a > bucketSize)
        cout << "in \t\t bucket overflow";
    else {
        delay(500);
        while (a > b)
            cout << "\n\t\t" << b << "bytes outputted";
            a -= b;
            delay(500);
        }
        if (a > 0) cout << "\n\t\t last "
            << a << " bytes sent \t";
        cout << "\n\t\t bucket output successful";
    }
}

int main() {
    int op, pktSize;
    Randomize();
    cout << "Enter output rate: "; cin >> op;
    for (int i = 1; i <= 5; i++) {
        delay(random(1000));
        pktSize = random(10000);
        cout << "\n packet no " << i << "\t\t"
            << " packet size = " << pktSize;
        bktInput(pktSize, op);
    }
    return 0;
}
```