1.
```cpp
#include<iostream.h>
#include<dos.h>
#include<stdlib.h>
#define bucketSize 512
void bucketSizeInput(int a, int b)
{
  if(a>bucketSize)
  cout<<"\n\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 Lost"<<a<<"bytes sent]t";
   cout<<"\n\t Bucket output successful";
  }
}
void main(){
int op, pktSize;
randomize();
cout<<"Enter output rate:"; cin>>op;
for(int 1=1; i<=5; i++){
delay(random(1000));
pktSize=random(1000); cout<<"\n Packet no"<<i<<"\t Packet Size="<<pktSize;
bkt Input (pktSize,op); }}.
```