```c
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#define BUCKET_CAPACITY 10
#define OUTPUT_RATE 5
int main()
{
int incoming_data=0;
int bucket_level=0;
printf("Leaky Bucket Algorithm Simulation\n");
while(1){
incoming_data=rand()%9+1;
printf("Incoming Data:%d\n",incoming_data);
if((bucket_level+incoming_data)<=BUCKET_CAPACITY){
bucket_level+=incoming_data;
printf("Bucket_Level:%d\n",bucket_level);
}
else
{
printf("Bucket Overflow!Dropping Data:%d\n",incoming_data);
}
if (bucket_level>=OUTPUT_RATE){
bucket_level -=OUTPUT_RATE;
printf("Data Sent : %d\n",OUTPUT_RATE);
printf("BUCKET level : %d\n",bucket_level);
}
else{
printf("Data sent=%d\n",bucket_level);
bucket_level=0;
printf("Bucket Level :%d\n",bucket_level);
}
printf("----------------------\n");
sleep(1);
}
return 0;
}
```