ASSIGNMENT NO.3
Load Balancing

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Problem Statement:
Load Balancing:

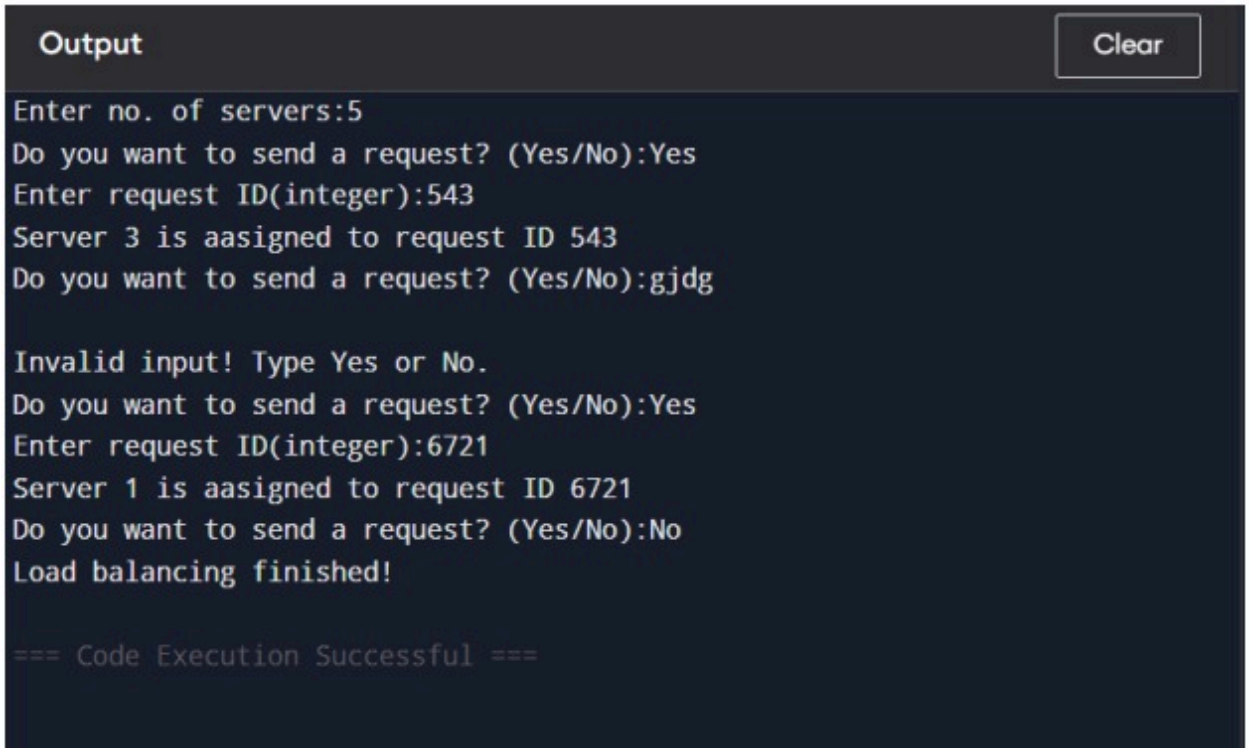
For example, imagine you have a set of servers that handle requests for a web application. The key to load balancing is using the hash value of a client's IP address or a request ID to determine which server should handle the request. The hash function is typically designed so that the data is evenly distributed across the servers, ensuring that no single server is overloaded. Write a program of a load balancing system

CODE:

```
#include<iostream>

using namespace std;

int main()

{

int server;

cout<<"Enter no. of servers:";

cin>>server;

string ans;

while(true)

{

cout<<"Do you want to send a request? (Yes/No):";

cin>>ans;

if(ans=="No")

{
```

```
Break;
}
else if(ans=="Yes")
{
int client_id;
cout<<"Enter request ID(integer):";
cin>>client_id;
int ser=client_id %server;
cout<< "Server "<< ser<< " is assigned to request ID " << client_id <<endl;
}
Else
 {
cout<<"\nInvalid input! Type Yes or No.\n";
}
}
cout<<"Load balancing finished!";
return 0;
}
```

Output:


Output
Clear
Enter no. of servers:5
Do you want to send a request? (Yes/No):Yes
Enter request ID(integer):543
Server 3 is aasigned to request ID 543
Do you want to send a request? (Yes/No):gjdg
Invalid input! Type Yes or No.
Do you want to send a request? (Yes/No):Yes
Enter request ID(integer):6721
Server 1 is aasigned to request ID 6721
Do you want to send a request? (Yes/No):No
Load balancing finished!
=== Code Execution Successful ===