Slip 21

q.1

#include<stdio.h>

#include<stdlib.h>

int main()

{

int RQ[100],i,n,TotalHeadMoment=0,initial;

printf("Enter the number of Request\n");

scanf("%d",&n);

printf("Enter the Request sequence\n");

for(i=0;i<n;i++)

scanf("%d",&RQ[i]);

printf("Enter initial head position\n");

scanf("%d",&initial);

for(i=0;i<n;i++)

{

TotalHeadMoment=TotalHeadMoment+abs(RQ[i]-initial);

initial=RQ[i];

}

printf("Total head moment is %d",TotalHeadMoment);

return 0;

}

q.2

#include <stdio.h>

#include <stdlib.h>

#include <mpi.h>

#define ARRAY\_SIZE 1000

int main(int argc, char\*\* argv) {

int my\_rank, num\_procs;

int array[ARRAY\_SIZE];

int sum = 0, local\_sum = 0;

MPI\_Init(&argc, &argv);

MPI\_Comm\_rank(MPI\_COMM\_WORLD, &my\_rank);

MPI\_Comm\_size(MPI\_COMM\_WORLD, &num\_procs);

srand(my\_rank + 1);

for (int i = 0; i < ARRAY\_SIZE; i++) {

array[i] = rand() % 100;

}

for (int i = my\_rank; i < ARRAY\_SIZE; i += num\_procs) {

if (array[i] % 2 == 0) {

local\_sum += array[i];

}

}

MPI\_Reduce(&local\_sum, &sum, 1, MPI\_INT, MPI\_SUM, 0, MPI\_COMM\_WORLD);

if (my\_rank == 0) {

printf("Sum of even numbers = %d\n", sum);

}

MPI\_Finalize();

return 0;

}