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//Group 2
//Single-Server Queue Assignment
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/* Group Members
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*/
```

```
#include <iostream>
using namespace std;
```

```
int main() {
```

```
int i, j, run = 15;
float sim_time;
int RN_Arr[15] = {82,91,12,77,90,75,33,61,19,58,41,54,52,16,86};
int IAT[15] = {4,5,1,4,5,4,2,3,1,3,2,3,3,1,4};
float ATC[15];
int RN_Ser[15] = {93,59,76,62,40,41,51,91,93,38,92,22,9,7,65};
int SV_T[15] = {6,3,5,4,3,3,3,6,6,3,6,2,1,1,4};
float TS_Begin[15];
float TS_End[15];
int Customer_Queue[15] = {0,1,1,1,1,1,1,2,2,3,3,4,5,5};
int Idle[15];
int Delay[15];
```

```
cout<< " Customers \t RN(Arr) \t IAT \t AT on CLOCK \t RN(Service) \t Service Time \t
Time_Service_Begin \t Time_Service_End \t Customer_In_Queue \t Server_Idle_Time \t
Delay";
```

```
for (int i=0;i<15;i++){
Delay[i] = (TS_Begin[i] - ATC[i]) * 100;
}
for (int i=0;i<15;i++){
TS_End[i] = (TS_Begin[i] - SV_T[i]/100);
}
sim_time = 1.00;
ATC[0] = (IAT[0]/100+sim_time);
for (int i=1;i<15;i++){
ATC[i] = (ATC[i-1] + IAT[i]);
}
```

```
TS_Begin[0]=ATC[0];
for (int i=1;i<15;i++){
TS_Begin[i] = TS_End[i-1];
}
```

```
sim_time = 1.00;  
Idle[0] = (TS_Begin[0]-sim_time) * 100;
```

```
for(int i=1; i<15;i++){  
Idle[i]=TS_Begin[i]-TS_End[i-1];  
}
```

```
for (j=0; j<=run; j++){
```

```
cout <<" \n " <<j + 1 <<" \t " <<RN_Arr[j] <<" \t " <<IAT[j] <<" \t " <<ATC[j] <<" \t "  
" <<RN_Ser[j] <<" \t " <<SV_T[j] <<" \t " <<TS_Begin[j] <<" \t " <<TS_End[j] <<" \t "  
" <<Customer_Queue[j] <<" \t " <<Idle[j] <<" \t " <<Delay[j] <<" \n ";  
}
```

```
}
```