**EXPERIMENT – 4**

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**CODE-**

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| #include <bits/stdc++.h> using namespace std;  int main(){  int n; cout<<"Enter the Number of Processes: "; cin>>n;  int at[n],bt[n],rt[n],wt[n],tat[n];  vector<int> ct;    *//Arrival Time*  for(int i=0;i<n;i++){ cin>>at[i];  }    *//Burst Time*    for(int i=0;i<n;i++){ cin>>bt[i]; rt[i]=bt[i];  }    *//Store the AT and BT of all process together*  vector<pair<int,pair<int,int>>> v; for(int i=0;i<n;i++){  v.push\_back({i+1,{at[i],bt[i]}});  } int complete = 0, time = 0, mini = INT\_MAX; int index = 0; bool check = false; |

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| *//check until all the prcess gets executed*  while(complete!=n){ for(int i=0;i<n;i++){ if(v[i].second.first<=time && rt[i]<mini && rt[i]>0){ mini = rt[i]; index = i; check = true;  }  }  if(check==false){ time++; continue;  }  rt[index]--;  if(rt[index]==0){ mini = INT\_MAX; complete++; check = false;  ct.push\_back(time+1);  wt[index] = time+1-v[index].second.first-v[index].second.second;  if(wt[index]<0){ wt[index]=0;  } } time++;  } for(int i=0;i<n;i++){ tat[i] = v[i].second.second + wt[i];  } cout << " P\t\t" << "BT\t\t" << "WT\t\t" << "TAT\t\t\n";    int total\_wt=0,total\_tat=0;  for(int i=0;i<n;i++){ total\_wt += wt[i]; total\_tat += tat[i];  cout<<v[i].first<<"\t\t"<<v[i].second.second<<"\t\t"<<wt[i]<<"\t\t"<<t at[i]<<endl; |
| } cout << "\nAverage waiting time = " << (float)total\_wt / (float)n; cout << "\nAverage turn around time = " << (float)total\_tat / (float)n;  return 0;  } |

**Output –**

