OS Lab Assignment 6:-
(Implementing Round Robin In xv6)

```
  GNU nano 6.2                                              rr.c
#include "types.h"
#include "user.h"
#define MAX_PROCESSES 10
struct Process{
int id;
int burst;
};
void roundRobin(struct Process processes[],int n,int timeQuantum){
int rem[MAX_PROCESSES];
for(int i=0;i<n;i++){
rem[i]=processes[i].burst;
}
int done=0;
printf(1,"Gantt Chart \n");
while(done<n){
for(int i=0;i<n;i++){
if(rem[i]>0){
int executionTime=(rem[i]>timeQuantum)?timeQuantum:rem[i];
rem[i]=executionTime;
printf(1,"|P%d(time:%d)|",processes[i].id,executionTime);
if(rem[i]==0) done++;
}

}
printf(1,"\n");
}
int main(){
int n;
char buff[16];
printf(1,"Enter the number of the processes \n");
gets(buff,sizeof(buff));
n=atoi(buff);
struct Process processes[MAX_PROCESSES];
for(int i=0;i<n;i++){
processes[i].id=i+1
printf(1,"Enter the burst time for P%d ",i+1);
gets(buff,sizeof(buff));
processes[i].burst=atoi(buff);
}
int timeQuantum=3;
roundRobin(processes,n,timeQuantum);

exit();
}
                                  [ Read 44 lines ]
^G Help       ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo      M-A Set Mark  M-] To Bracket M-Q Previous
^X Exit       ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^_ Go To Line M-E Redo      M-6 Copy      ^Q Where Was  M-W Next
```

Output:-


```
SeaBIOS (version 1.15.0-1)

iPXE (https://ipxe.org) 00:03.0 CA00 PCI2.10 PnP PMM+1FF8B4A0+1FECB4A0 CA00

Booting from Hard Disk...
xv6...
cpu0: starting 0
sb: size 1000 nblocks 941 ninodes 200 nlog 30 logstart 2 inodestart 32 bmap start 58
init: starting sh
$ rr
Enter the number of the processes
4
Enter the burst time for P1 3
Enter the burst time for P2 6
Enter the burst time for P3 2
Enter the burst time for P4 10
Gantt Chart
|P1(time:3)||P2(time:3)||P3(time:2)||P4(time:3)||P1(time:3)||P2(time:3)||P3(time:2)||P4(time:3)||P1(time:3)||P2(time:3)||P3(time:2)||P4(time:3)||P1(time:3)||P22
```