Question-1

```
shovelSemaphore= 1
emptyHoleSemaphore= 0
seededHoleSemaphore= 0
integer value=maximumHole=n

Ali{
wait(shovelSemaphore) //wait for shavel is free

If(emptyHoleSemaphore < maximumHole){// check  if ali reached maximum hole
        dig();  //if not digging
        signal(emptyHoleSemaphore)  ;
}
signal(shovelSemaphore) //set shovel free to use by binnary semaphore
}


Ahmet{
wait(emptyHoleSemaphore) //wait  until  there is at least one  emptyHole
seed();//if there is seed to the hole
signal(seededHoleSemaphore)
}

Ayse{
wait(seededHoleSemaphore) //wait until there is al least one seeded Hole
wait(shovelSemaphore) ) //wait for shavel is free
fiilHole();  //fill the seeded hole
signal(shovelSemaphore)  //set shovel free to use by binnary semaphore
}
Wait(
semaphore s){,
     while(s<=0);
    s--;
}
Signal (Semaphore s){
        s++;
}
```

Question-2

```
 barberSemaphore = 0 // barber
 customerSemaphore = 0 //customer
 chairSemaphore= 1 //chair in the barbershop
seatAvailable// boolean data type to check if seat is avilable
Customer
{
while(true){
wait(chairSemaphore) //customer wait if chair is available

if(seatAvailable=true)
{
        seatAvailabl=false;//chair available false
        signal(customerSemaphore) //customer number increased
        signal(chairSemaphore) //chair number increased
        wait(barberSemaphore)// wait until barber is available
        haveShave();
}

else{
        signal(chairSemaphore) //decreased chair
        customerExit();// exit the barber saloon
}

  }
}



Barber
{
while(true){

        wait(customerSemaphore)//wait untill customer comes in
        wait(chairSemaphore)// checks if chair is availavle
        seatAvailable =false //set available of chair false
        signal(barberSemaphore)//set barber available to to start shave
        shaveCustomer();//shave customer
        signal(chairSemaphore)    //



}
Wait(semaphore s){,
     while(s<=0);
    s--;
```

```
}
Signal (Semaphore s){
        s++;
}

}
```