1.

b.

**monitor bank {**

**int balance = 1000000;**

**cond delay;**

**proc deposit(int amount) {**

**balance += amount;**

**if(amount(delay)<=balance)**

**signal(delay);**

}

**proc withdraw(int amount) {**

**while (amount > balance ) {**

**wait(delay);**

**}**

**balance -= amount;**

**return amount;**

**}**

}

c.

**monitor bank {**

**int balance = 1000000;**

**cond delay;**

**queue withdrawNums;**

**proc deposit( int amount ) {**

**balance += amount;**

**int next = withdrawNums.head();**

**if(next<=balance)**

**signal(delay);**

**} # deposit**

**proc withdraw( int amount ) {**

**withdrawNums.push(amount);**

**while ( amount > balance )**

**wait( delay );**

**WithdrawNums.pop();**

**balance -= amount;**

**return amount;**

**} # withdraw**

**} # bank monitor**

2.

**monitor communication {**

**queue Q = new queue(n);**

**cond c[n] = new cond[n];**

**item it;**

**proc producer(it){**

**for i is in 0…n{**

**Q.add(it)**

**Signal(c[i]);**

**}**

**}**

**proc consumer(int id){**

**while(Q[id] is null)**

**wait(c);**

**it = Q.pop();**

**}**

}

3.

**monitor Printer {**

**int A,B=1;//1 is true as 0 is false.**

**cond printer;**

**proc printerA(){**

**while(!A)**

**wait(printer);**

**A =0;**

**A=1;**

**Signal(printer);**

**}**

**proc printerB(){**

**while(!B)**

**wait(printer);**

**B =0;**

**B=1;**

**Signal(printer);**

**}**

**proc printBoth(){**

**while(!A && !B)**

**wait(printer);**

**int a,b =0;**

**if(A){**

**A=0;**

**a=1;**

**}else if(B){**

**B=0;**

**b=1;**

**}**

**if(a)**

**A=1;**

**else if(b)**

**B=1;**

**Signal(printer);**

**}**

**}**