```
a=int(input("Enter number of student who play football:"))
foot=[]
for i in range(a):
    footname=input("Enter students name:")
    foot.append(footname)
print(foot)

b=int(input("Enter number of student who play cricket:"))
cric=[]
for i in range(b):
    cricname=input("Enter students name:")
    cric.append(cricname)
print(cric)

c=int(input("Enter number of student who play batminton:"))
bat=[]
for i in range(c):
    batname=input("Enter students name:")
    bat.append(batname)
print(bat)

def problem1(bat,cric):
    lst=[]
    for i in bat:
        for j in cric:
            if i in j:
                lst.append(i)
    return lst

def problem2(cric,bat):
    lst2=[]
```

```
    for i in cric:
        if i not in bat:
            lst2.append(i)

    for i in bat:
        if i not in cric:
            lst2.append(i)
    return lst2

def problem3(foot,cric,bat):
    sum=0
    for i in foot:
        if i not in cric and i not in bat:
            sum=1+sum
    return sum

def problem4(foot,cric,bat):
    sum=0
    for i in cric:
        if i in foot and i not in bat:
            sum=1+sum



print("List of students who play both cricket and badminton=",problem1(bat,cric))
print("List of students who play either cricket or badminton but not both=",problem2(cric,bat))
print("Number of students who play neither cricket nor badminton=",problem3(foot,cric,bat))
print("Number of students who play cricket and football but not
badminton=",problem4(foot,cric,bat))
```