

## 1 (vagueness=0 (maybe 1 for “my” partner?))

'picture\_1.json': "Here you see Emily. Emily is Ross Geller's wife.",  
'picture\_2.json': 'Here is Judy. Oh, and... Here you see Susan Bunch. Oh, have I mentioned, Susan is a colleague of Carol Hay.',  
'picture\_3.json': "Here you see Estelle Leonard. By the way, Estelle is Mike Turner's wife.",  
'picture\_4.json': 'This picture shows Paul Stevens. Oh, have I mentioned, Paul is my partner.',  
'picture\_5.json': "Here is Amy. Oh, and... Here's Judy Geller! Judy is Jack Geller's wife.",  
'picture\_6.json': "Here you see Judy. By the way, Judy is Jack Geller's wife.",  
'picture\_7.json': "Look, here's Jill. Jill is Amy Green's sister.",  
'picture\_8.json': "Here is a picture of Chandler. Also... Here's Estelle Leonard. Estelle is Mike Turner's wife.",  
'picture\_9.json': 'Here is a picture of Phoebe. Also... Here you see Carol. By the way, Carol works with Susan Bunch.'  
'picture\_10.json': "Here is Ben. Oh, and... Here's Emily Waltham. Emily is a sister of Emma Waltham.",

Emily: FFR.....AFR  
Ross: A.....  
Judy: .F..AFRFFR....  
Estelle: ..AFR....AFR..  
Amy: ....F.A...  
Jack: ....AA....  
Paul: ...AFR.....  
Jill: .....FFR...  
Carol: .A.....FF.  
Susan: .AFR.....A.

MOA:  
0

## 2 (vagueness=0)

'picture\_1.json': 'Here you see Phoebe. Oh, have I mentioned, Phoebe is a sister of Frank Buffay, Jr.',  
'picture\_2.json': "Here's Carol! Carol works with Susan Bunch.",  
'picture\_3.json': 'Here you see Paul Stevens. By the way, Paul is my partner.',  
'picture\_4.json': "Here is Monica. Oh, and... This picture shows Ursula. By the way, Ursula is Frank Buffay, Jr.'s sister.",  
'picture\_5.json': "Here is Charles. Oh, and... Look, here's Ursula. By the way, Ursula is Phoebe Buffay's sister.",  
'picture\_6.json': "Here's Joey Tribbiani! By the way, Joey is a colleague of Gunther.",  
'picture\_7.json': 'Here is Charles. Oh, and... Here he is, Joey is a colleague of my.',  
'picture\_8.json': "Here is Susan. Oh, and... This picture shows Ben. Ben is Carol Willick's mother.",  
'picture\_9.json': 'This picture shows Jack. '  
'picture\_10.json': "Here is a picture of Amy. Also... Here's Emily Waltham. Emily is Ross Geller's wife.",

Phoebe: FFR...A.....  
Carol: .FF.....A..  
Paul: ..AFR.....  
Ursula: ...FFRFFR.....  
Joey: .....AFRPFRR...  
Ben: .....FFR..  
Emily: .....AFR

MOA: (5)  
In picture 7: MOA = 5

## 3 (vagueness=0)

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{'picture_1.json': 'Here he is again. Oh, have I mentioned, Gunther is a colleague of Rachel Green.',
'picture_2.json': "Look, here's Paul. Oh, have I mentioned, Paul is Rachel Green's partner.",
'picture_3.json': 'Here is a picture of Elizabeth. Also... Here you see Gunther. By the way, Gunther works with Joey Tribbiani.',
'picture_4.json': "Here is a picture of Susan. Also... Here's Emily Waltham. Emily is Ross Geller's wife.",
'picture_5.json': "Here you see Ross Geller. Oh, have I mentioned, Ross is Rachel Green's husband.",
'picture_6.json': "Here is Joey. Oh, and... Here's Janice Litman Goralnik! By the way, Janice is Ross Geller's girlfriend.",
'picture_7.json': "Here is a picture of Frank. Also... Here you see Ursula Pamela Buffay. By the way, Ursula is Frank Buffay, Jr's sister.",
'picture_8.json': "Here's Frank. Frank is Eddie's husband.",
'picture_9.json': "Here is Russ. Oh, and... Here you see Paul. By the way, Paul is Rachel Green's partner."
'picture_10.json': "Here is Rachel. Oh, and... Look, here's Ross Geller. Oh, have I mentioned, Ross is Judy Geller's mom."}
```

Gunther: PFR.FF.....  
Paul: .FFR.....FFR.  
Ross: ...AAFRA...AFR  
Joey: ..A..F....  
Janice: .....AFR....  
Rachel: AA..A...AF  
Frank: .....FFF..  
Frank Buffay Jr: .....A...

MOA:  
Picture 1: MOA=0

#### 4 (vagueness=0) (all vagueness are 0 because he always mentions a name which isn't what was asked)

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{'picture_1.json': "Here is Judy. Oh, and... Here he is again. By the way, Chandler is Monica Geller's husband.",
'picture_2.json': "Here you see Jill Green. Jill is Amy Green's sister.",
'picture_3.json': "Here's Ross Geller! By the way, Ross is Janice Litman Goralnik's boyfriend.",
'picture_4.json': "Here he is, Paul is Rachel Green's boyfriend.",
'picture_5.json': "Here you see Rachel. Oh, have I mentioned, Rachel works with Nora Johnson.",
'picture_6.json': 'This picture shows Jack. ',
'picture_7.json': "Here is Carol. Oh, and... Here you see Ursula. Ursula is Joey Tribbiani's partner.",
'picture_8.json': "Here you see Susan Bunch. Susan is Carol Willick's wife.",
'picture_9.json': "Here he is again. Oh, have I mentioned, Paul is Rachel Green's partner."
'picture_10.json': "Here is Frank. Oh, and... This picture shows Susan. Oh, have I mentioned, Susan is Carol Willick's wife."}
```

Jill: .AFR.....  
Ross: ..AFR.....  
Paul: ...PFR....PFR.  
Rachel: ...AFF...A.  
Susan: .....AFR.FFR  
Carol: .....FA.A

MOA: (7)  
Picture 1: MOA=0  
Picture 4: MOA=2  
Picture 9: MOA=5

#### 5 (vagueness=0)

{'picture\_1.json': "Here is Richard. Oh, and... Here you see Ben Geller-Willick-Bunch. Oh, have I mentioned, Ben is Carol Willick's mother.",  
 'picture\_2.json': "Here is a picture of Jack. Also... Here's Richard Burke. Richard is Monica Geller's partner.",  
 'picture\_3.json': "Here is Gunther. Oh, and... Here you see Paul. Oh, have I mentioned, Paul is Rachel Green's partner.",  
 'picture\_4.json': "Here you see Richard. By the way, Richard is Monica Geller's partner.",  
 'picture\_5.json': "Here's Janice! By the way, Janice is Ross Geller's partner.",  
 'picture\_6.json': "Here is Nora. Oh, and... Here's Russ! By the way, Russ is Rachel Greene's boyfriend.",  
 'picture\_7.json': "Here is Janice. Oh, and... Here you see Ursula. By the way, Ursula is my's sister.",  
 'picture\_8.json': 'Here she is again. By the way, Nora works with Rachel Green.',  
 'picture\_9.json': 'Here you see Rachel. Oh, have I mentioned, Rachel works with Joey Tribbiani.'  
 'picture\_10.json': "Here you see Ben Geller-Willick-Bunch. Oh, have I mentioned, Ben is Carol Willick's mom.",

Richard: FAFR.FFR.....  
 Ben: AFR.....AFR  
 Paul: ..FFR.....  
 Rachel: ..A..A..FF.  
 Janice: ....FFR.F...  
 Ursula: .....FFR...  
 Russ: .....FFR....  
 Nora: .....F.PF..

MOA: (6)  
 Picture 8: MOA=6

## 6 (vagueness=1)

{'picture\_1.json': "Here's Rachel! By the way, Rachel works with my.",  
 'picture\_2.json': 'Here you see Amy. Amy is a sister of Rachel Green.',  
 'picture\_3.json': "Here is a picture of Ursula. Also... Look, here's Gunther. Gunther works with my.",  
 'picture\_4.json': "Here you see Elizabeth. Elizabeth is Ross Geller's girlfriend.",  
 'picture\_5.json': "Here's Amy Green! Amy is Rachel Green's sister.",  
 'picture\_6.json': "Here's Ursula. Ursula is my girlfriend.",  
 'picture\_7.json': 'Here he is, Gunther is a colleague of my.',  
 'picture\_8.json': 'Here he is, ',  
 'picture\_9.json': "Here he is again. Oh, have I mentioned, Mike is Estelle Leonard's husband."  
 'picture\_10.json': 'Here is Elizabeth. Oh, and... Here she is, Carol is a colleague of Susan Bunch.',

Rachel: FFA..A.....  
 Amy: .FFR..AFR.....  
 Gunther: ..FF...FR...  
 Ursula: ..F..FFR....  
 Elizabeth: ...FFR.....F  
 Carol: .....PFR  
 Mike: .....PFR.

MOA: (13)  
 Picture 7: MOA=2  
 Picture 8: MOA= 3  
 Picture 9: MOA=3  
 Picture 10: MOA=5

## 7 (vagueness=0)

{'picture\_1.json': "Look, here's Judy Geller. Oh, have I mentioned, Judy is Jack Geller's wife.",  
 'picture\_2.json': "Here's Ross Geller! By the way, Ross is Emily Waltham's husband.",  
 'picture\_3.json': "Here is a picture of Chandler. Also... Here she is, Estelle is Mike Turner's wife.",  
 'picture\_4.json': "Here is a picture of Gunther. Also... Here he is, Paul is Rachel Green's partner.",

'picture\_5.json': 'Here you see Carol Hay. Carol is a colleague of Susan Bunch.',  
 'picture\_6.json': 'This picture shows Carol Hay. By the way, Carol works with Susan Bunch.',  
 'picture\_7.json': 'Here is Emma. Oh, and... Here's Carol Hay. Carol is a colleague of Susan Bunch.',  
 'picture\_8.json': 'Here is Eddie. Oh, and... Here you see Charles Bing. Charles is Nora Tyler Bing's wife.',  
 'picture\_9.json': 'Here you see Amy. By the way, Amy is a sister of Jill Green.'  
 'picture\_10.json': 'Look, here's Emily Waltham. Emily is a sister of Emma Waltham.',

Judy: AFR.....  
 Ross: .AFR.....  
 Estelle: ..PFR.....  
 Carol: ....AFRAFAFR...  
 Charles: .....AFR..  
 Emma: .....F..A  
 Emily: .A.....AFR  
 Susan: ....AAA...  
 Amy: .....FFR

MOA: (7)  
 Picture 3: MOA = 2  
 Picture 4: MOA = 5

## 8 (vagueness=0)

{'picture\_1.json': 'Look, here's Rachel. Rachel is Amy Green's sister.',  
 'picture\_2.json': 'Here is Richard. Oh, and... Look, here's Monica. By the way, Monica is Judy Geller's mom.',  
 'picture\_3.json': 'Here she is again. Amy is Rachel Green's sister.',  
 'picture\_4.json': 'Here is a picture of Jill. Also... Here's Frank! Oh, have I mentioned, Frank is Eddie's husband.',  
 'picture\_5.json': 'Here is a picture of Phoebe. Also... Here he is again. Oh, have I mentioned, Frank is Eddie's husband.',  
 'picture\_6.json': 'Here is Susan. Oh, and... Here's Rachel! By the way, Rachel is Sandra Green's mother.',  
 'picture\_7.json': 'Here you see Amy. By the way, Amy is Sandra Green's mom.',  
 'picture\_8.json': 'Here is a picture of Emma. Also... This picture shows Monica E Geller Bing. Monica is Judy Geller's mom.',  
 'picture\_9.json': 'Here he is again. Oh, have I mentioned, Russ is Rachel Greene's boyfriend.'  
 'picture\_10.json': 'This picture shows Jack. ',

Rachel: FFR.A..FFR..A.  
 Amy: A.PFR...FFR...  
 Monica: .FFR.....AFR..  
 Judy: .A.....F..  
 Frank: ...FFRPFR.....  
 Eddie: ...FF.....  
 Sandra: .....AA...  
 Russ: .....PFR.

MOA (10)  
 Picture 3: MOA=4  
 Picture 5: MOA=3  
 Picture 9: MOA=3

## 9 (vagueness=0)

{'picture\_1.json': 'Here is Frank. Oh, and... Here she is, Ursula is a sister of Frank Buffay, Jr.',  
 'picture\_2.json': 'Here is a picture of Emily. Also... Look, here's Janice. Janice is Chandler Bing's girlfriend.',  
 'picture\_3.json': 'Here is Nora. Oh, and... Here's Chandler Bing. Chandler is Nora Tyler Bing's mom.',  
 'picture\_4.json': 'Here she is, Carol works with Susan Bunch.',  
 'picture\_5.json': 'Here's Elizabeth. Elizabeth is Ross Geller's partner.',

'picture\_6.json': "Look, here's Nora. Nora is a colleague of my.",  
'picture\_7.json': "Here you see Estelle. Estelle is Mike Turner's wife.",  
'picture\_8.json': "Here is a picture of Richard. Also... Look, here's Estelle Leonard. Estelle is Mike Turner's wife.",  
'picture\_9.json': "Here is a picture of Eddie. Also... Here's Ursula! By the way, Ursula is a sister of Phoebe Buffay."  
'picture\_10.json': "Here is Amy. Oh, and... Here you see Carol. By the way, Carol is a colleague of Susan Bunch.",

Ursula: PFR.....FFR.  
Janice: .FFR.....  
Chandler: .AAFR.....  
Nora: ..FA..FFR....  
Carol: ...F.....FFR  
Elizabeth: ....FFR.....  
Estelle: .....FFRAFR..  
Susan: ...A.....A

MOA (5)  
Picture 1: MOA=0  
Picture 4: MOA = 5

## 10 (vagueness=0)

{'picture\_1.json': "Here is Gunther. Oh, and... This picture shows Estelle. Oh, have I mentioned, Estelle is Mike Turner's wife.",  
'picture\_2.json': "Here's Janice Litman Goralnik. Janice is Chandler Bing's girlfriend.",  
'picture\_3.json': "Here is Janice. Oh, and... Here he is, Frank is Eddie's husband.",  
'picture\_4.json': "Here is a picture of Richard. Also... Here he is, Mike is Estelle Leonard's husband.",  
'picture\_5.json': "Here he is, Ben is Carol Willick's mom.",  
'picture\_6.json': "Here you see Emily. By the way, Emily is Emma Waltham's sister.",  
'picture\_7.json': "Here is Janice. Oh, and... Here's Mike. Mike is Estelle Leonard's husband.",  
'picture\_8.json': "Here is Monica. Oh, and... Here's Amy! By the way, Amy is Sandra Green's mom.",  
'picture\_9.json': "Look, here's Richard Burke. Oh, have I mentioned, Richard is Monica Geller's boyfriend."  
'picture\_10.json': "Here you see Elizabeth. Oh, have I mentioned, Elizabeth is Ross Geller's partner.",

Estelle: FFR..A..A...  
Mike: A..PFR..FFR...  
Janice: .AFRF...F...  
Richard: ...F.....AFR.  
Amy: .....FFR..  
Monica: .....FA.  
Elizabeth: .....FFR

MOA: (15)  
Picture 3: MOA=3  
Picture 4: MOA=6  
Picture 5: MOA=6