

Decision Models & Analytics

Online Dating

You run an online dating app that specializes in matching people based on compatibility scores. When signing up, each person writes down their score for 5 activities: playing sports, going to the theater, attending religious services, enjoying the outdoors and eating out. The scores vary from -2 (strong dislike) to +2 (strong like). The table below shows the activity scores chosen by 16 people in a particular location.

Name	Gender	Sports	Theater	Religion	Outdoors	Eating Out
Laura	Female	0	2	-1	0	2
Jennifer	Female	0	2	-1	-1	1
Emma	Female	2	-1	2	0	2
Olivia	Female	0	2	0	1	1
Martha	Female	0	-1	-1	0	0
Isabella	Female	-2	1	1	1	-2
Mary	Female	-2	0	2	-1	2
Sophia	Female	2	0	-1	-2	-2
James	Male	0	-2	2	-1	0
Robert	Male	2	1	1	-1	0
Peter	Male	-1	2	1	0	0
Eric	Male	1	-2	-2	-2	2
Daniel	Male	2	0	1	1	1
Adam	Male	2	0	-2	-2	2
Carl	Male	1	2	-2	2	1
Ralph	Male	0	2	2	2	-1

When you create a match, the value of the match is equal to the sum of the products of the 5 different activity scores of the two individuals. For example, if you match Laura and Ralph, the match score would be:

$$\text{Score(Laura \& Ralph)} = 0*0+2*2+(-1)*2+0*2+2*(-1) = 0+4-2+0-2 = 0$$

Your online app shows 2 matches to each person on each day. Your task is to choose what matches to show today. Assume all of the individuals above would like to be matched to people of the opposite gender. What matches would you choose to maximize the aggregate match score?