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Prime CAT 08 2022 DILR

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Section-1

Sec 1

Directions for questions 1 to 6: Answer the questions on the basis of the information given below.

A newly constructed office space has a row of cubicles that are numbered 1 to 20 sequentially from left to right. The employees occupy the cubicles in such a way that all those who work in the same department sit together and there is a minimum gap of one cubicle between the employees of each department. The female employees are Ankita, Bhumi, Emily, Janki, Maya and Neha whereas the male employees are Champak, Dhruv, Farhan, Ganesh, Hiten, Ishan, Ketan, and Lalit. They work in five different departments Namely Admin, Accounts, IT, HR and Sales.

Further, it is also known that:
(i) Dhruv and Champak are from Admin and one of them sits at the end of the row. Ankita and Hiten are from Accounts and the same is true for both of them too.
(ii) Cubicles with numbers that are multiples of 9 are vacant whereas those that are multiples of 5 are occupied by females.
(iii) Maya and Farhan's cubicles have two cubicles between them which are occupied. There are 4 members in HR. Janki is in cubicle 10 and there is only one vacant cubicle next to her.
(iv) Ketan and Emily are neighbors of Ishan. Ganesh is not in HR. Neha, from IT, sits at a gap of two cubicles from Emily, who is the only female in Sales.
(v) The sum of cubicle numbers of employees of IT department and HR department are consecutive multiples of 11.

Q.1 [11831809]
In which of the following cubicles does Lalit sit?

1 ◯ 7

2 ◯ 6

3 ◯ 11

4 ◯ 17

Solution:
Correct Answer : 2

Answer key/Solution

Step 1:
From condition (ii), cubicles 9 and 18 are vacant. Cubicles 5, 10, 15 and 20 are occupied by female employees.
From condition (i), cubicles 19 and 20 are occupied by Hiten and Ankita respectively. Cubicles 1 and 2 are occupied by either Dhruv or Champak.
So cubicles 3 and 18 are vacant.
From condition (iii), cubicles 4 and 7 can be occupied by either Maya or Farhan.
From condition (iv), Since Emily is the only female in sales. So Ketan and Ishan are also in sales. Also, Neha, from IT, sits at a gap of two cubicles from Emily. So cubicles 15 and 12 are occupied by Emily and Neha respectively. So cubicles 8, 9, 13, and 14 are vacant.
From condition (v), the sum of cubicle numbers of HR and IT departments are 22 and 33 respectively.

Step 2:
The persons are represented by their initials.
The given information can be shown in the following table:

	M	M		M/Fe	Fe	M	Fe/M			Fe	M	Fe			Fe	M	M		M	Fe
Cubicle	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Person	D/C	C/D		M/F	B	L	F/M			J	G	N			E	I	K		H	A
Department	Admin			HR						IT					Sales				Accounts	

Lalit, who is a HR, sits in cubicle number 6.

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Further, it is also known that:
(i) Dhruv and Champak are from Admin and one of them sits at the end of the row. Ankita and Hiten are from Accounts and the same is true for both of them too.
(ii) Cubicles with numbers that are multiples of 9 are vacant whereas those that are multiples of 5 are occupied by females.
(iii) Maya and Farhan's cubicles have two cubicles between them which are occupied. There are 4 members in HR. Janki is in cubicle 10 and there is only one vacant cubicle next to her.
(iv) Ketan and Emily are neighbors of Ishan. Ganesh is not in HR. Neha, from IT, sits at a gap of two cubicles from Emily, who is the only female in Sales.
(v) The sum of cubicle numbers of employees of IT department and HR department are consecutive multiples of 11.

Q.2 [11831809]
What is the absolute difference between the cubicle numbers of Ganesh and Ishan?

Solution:
Correct Answer : 5

Answer key/Solution

Step 1:
From condition (ii), cubicles 9 and 18 are vacant. Cubicles 5, 10, 15 and 20 are occupied by female employees.
From condition (i), cubicles 19 and 20 are occupied by Hiten and Ankita respectively. Cubicles 1 and 2 are occupied by either Dhruv or Champak.
So cubicles 3 and 18 are vacant.
From condition (iii), cubicles 4 and 7 can be occupied by either Maya or Farhan.
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From condition (v), the sum of cubicle numbers of HR and IT departments are 22 and 33 respectively.

Step 2:
The persons are represented by their initials.
The given information can be shown in the following table:

	M	M		M/Fe	Fe	M	Fe/M			Fe	M	Fe			Fe	M	M		M	Fe
Cubicle	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Person	D/C	C/D		M/F	B	L	F/M			J	G	N			E	I	K		H	A
Department	Admin			HR						IT					Sales				Accounts	

Required absolute difference between the cubical numbers of Ganesh and Ishan = 16 – 11 = 5.

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Further, it is also known that:
(i) Dhruv and Champak are from Admin and one of them sits at the end of the row. Ankita and Hiten are from Accounts and the same is true for both of them too.
(ii) Cubicles with numbers that are multiples of 9 are vacant whereas those that are multiples of 5 are occupied by females.
(iii) Maya and Farhan's cubicles have two cubicles between them which are occupied. There are 4 members in HR. Janki is in cubicle 10 and there is only one vacant cubicle next to her.
(iv) Ketan and Emily are neighbors of Ishan. Ganesh is not in HR. Neha, from IT, sits at a gap of two cubicles from Emily, who is the only female in Sales.
(v) The sum of cubicle numbers of employees of IT department and HR department are consecutive multiples of 11.

Q.3 [11831809]
What is the total number of ways in which the employees can be seated?

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
From condition (ii), cubicles 9 and 18 are vacant. Cubicles 5, 10, 15 and 20 are occupied by female employees.
From condition (i), cubicles 19 and 20 are occupied by Hiten and Ankita respectively. Cubicles 1 and 2 are occupied by either Dhruv or Champak.
So cubicles 3 and 18 are vacant.
From condition (iii), cubicles 4 and 7 can be occupied by either Maya or Farhan.
From condition (iv), Since Emily is the only female in sales. So Ketan and Ishan are also in sales. Also, Neha, from IT, sits at a gap of two cubicles from Emily. So cubicles 15 and 12 are occupied by Emily and Neha respectively. So cubicles 8, 9, 13, and 14 are vacant.
From condition (v), the sum of cubicle numbers of HR and IT departments are 22 and 33 respectively.

Step 2:
The persons are represented by their initials.
The given information can be shown in the following table:

	M	M		M/Fe	Fe	M	Fe/M			Fe	M	Fe			Fe	M	M		M	Fe
Cubicle	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Person	D/C	C/D		M/F	B	L	F/M			J	G	N			E	I	K		H	A
Department	Admin			HR						IT					Sales				Accounts	

Dhruv and Champak can be arranged in 2 ways. Maya and Farhan can also be arranged in 2 ways.
Hence, total number of ways = 2 × 2 = 4.

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(i) Dhruv and Champak are from Admin and one of them sits at the end of the row. Ankita and Hiten are from Accounts and the same is true for both of them too.
(ii) Cubicles with numbers that are multiples of 9 are vacant whereas those that are multiples of 5 are occupied by females.
(iii) Maya and Farhan's cubicles have two cubicles between them which are occupied. There are 4 members in HR. Janki is in cubicle 10 and there is only one vacant cubicle next to her.
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(v) The sum of cubicle numbers of employees of IT department and HR department are consecutive multiples of 11.

Q.4 [11831809]

What is the sum of the vacant cubicle numbers?

1 ◯ 57

2 ◯ 65

3 ◯ 71

4 ◯ 49

Solution:

Correct Answer : 2

Answer key/Solution

Step 1:

From condition (ii), cubicles 9 and 18 are vacant. Cubicles 5, 10, 15 and 20 are occupied by female employees.
From condition (i), cubicles 19 and 20 are occupied by Hiten and Ankita respectively. Cubicles 1 and 2 are occupied by either Dhruv or Champak.
So cubicles 3 and 18 are vacant.
From condition (iii), cubicles 4 and 7 can be occupied by either Maya or Farhan.
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From condition (v), the sum of cubicle numbers of HR and IT departments are 22 and 33 respectively.

Step 2:

The persons are represented by their initials.
The given information can be shown in the following table:

	M	M		M/Fe	Fe	M	Fe/M			Fe	M	Fe			Fe	M	M		M	Fe
Cubicle	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Person	D/C	C/D		M/F	B	L	F/M			J	G	N			E	I	K		H	A
Department	Admin			HR						IT					Sales				Accounts	

Required sum = 18 + 14 + 13 + 9 + 8 + 3 = 65.

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Further, it is also known that:
(i) Dhruv and Champak are from Admin and one of them sits at the end of the row. Ankita and Hiten are from Accounts and the same is true for both of them too.
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(iv) Ketan and Emily are neighbors of Ishan. Ganesh is not in HR. Neha, from IT, sits at a gap of two cubicles from Emily, who is the only female in Sales.
(v) The sum of cubicle numbers of employees of IT department and HR department are consecutive multiples of 11.

Q.5 [11831809]
If there are two cubicles between the cubicles of Champak and Farhan, then how many cubicles will be there between the cubicles of Maya and Ankita?

1 ◯ Ten

2 ◯ Eleven

3 ◯ Twelve

4 ◯ Thirteen

Solution:
Correct Answer : 3

Answer key/Solution

Step 1:
From condition (ii), cubicles 9 and 18 are vacant. Cubicles 5, 10, 15 and 20 are occupied by female employees.
From condition (i), cubicles 19 and 20 are occupied by Hiten and Ankita respectively. Cubicles 1 and 2 are occupied by either Dhruv or Champak.
So cubicles 3 and 18 are vacant.
From condition (iii), cubicles 4 and 7 can be occupied by either Maya or Farhan.
From condition (iv), Since Emily is the only female in sales. So Ketan and Ishan are also in sales. Also, Neha, from IT, sits at a gap of two cubicles from Emily. So cubicles 15 and 12 are occupied by Emily and Neha respectively. So cubicles 8, 9, 13, and 14 are vacant.
From condition (v), the sum of cubicle numbers of HR and IT departments are 22 and 33 respectively.

Step 2:
The persons are represented by their initials.
The given information can be shown in the following table:

	M	M		M/Fe	Fe	M	Fe/M			Fe	M	Fe			Fe	M	M		M	Fe
Cubicle	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Person	D/C	C/D		M/F	B	L	F/M			J	G	N			E	I	K		H	A
Department	Admin			HR						IT					Sales				Accounts	

If there are two cubicles between the cubicles of Champak and Farhan. This means that Champak is in cubicle 1 and Farhan is in cubicle 4. So Maya will be in cubicle 7. Hence, there will be twelve cubicles between Maya and Ankita's cubicles.

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Directions for questions 1 to 6: Answer the questions on the basis of the information given below.

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(ii) Cubicles with numbers that are multiples of 9 are vacant whereas those that are multiples of 5 are occupied by females.
(iii) Maya and Farhan's cubicles have two cubicles between them which are occupied. There are 4 members in HR. Janki is in cubicle 10 and there is only one vacant cubicle next to her.
(iv) Ketan and Emily are neighbors of Ishan. Ganesh is not in HR. Neha, from IT, sits at a gap of two cubicles from Emily, who is the only female in Sales.
(v) The sum of cubicle numbers of employees of IT department and HR department are consecutive multiples of 11.

Q.6 [11831809]

If the sales department recruits one new employee, then which of the following cubicles will he occupy?

1 ◯ 13

2 ◯ 8

3 ◯ 14

4 ◯ 18

Solution:

Correct Answer : 3

Answer key/Solution

Step 1:

From condition (ii), cubicles 9 and 18 are vacant. Cubicles 5, 10, 15 and 20 are occupied by female employees.
From condition (i), cubicles 19 and 20 are occupied by Hiten and Ankita respectively. Cubicles 1 and 2 are occupied by either Dhruv or Champak.
So cubicles 3 and 18 are vacant.
From condition (iii), cubicles 4 and 7 can be occupied by either Maya or Farhan.
From condition (iv), Since Emily is the only female in sales. So Ketan and Ishan are also in sales. Also, Neha, from IT, sits at a gap of two cubicles from Emily. So cubicles 15 and 12 are occupied by Emily and Neha respectively. So cubicles 8, 9, 13, and 14 are vacant.
From condition (v), the sum of cubicle numbers of HR and IT departments are 22 and 33 respectively.

Step 2:

The persons are represented by their initials.
The given information can be shown in the following table:

	M	M		M/Fe	Fe	M	Fe/M			Fe	M	Fe			Fe	M	M		M	Fe
Cubicle	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Person	D/C	C/D		M/F	B	L	F/M			J	G	N			E	I	K		H	A
Department	Admin			HR						IT					Sales				Accounts	

The new employee of sales department will occupy cubicle 14.

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Directions for questions 7 to 10: Answer the questions based on the information given below.

Seven pilots, Aman, Bihan, Chand, Dhruv, Esha, Fred and Gita are scheduled to fly seven different airplanes from Chennai International airport to three different destinations - Mumbai, Delhi and Kochi. The flight to Mumbai takes 2 hours, the flight to Delhi takes 3.5 hours and the flight to Kochi takes 1 hour. The following airport log shows the departure times for the flights of the pilots. Some of the information is missing and has to be figured out in the course of answering the questions.

Time	7:00	10:00	12:00	14:00	15:00	16:00	19:00
Pilot	-	Dhruv	-	-	Fred	Bihan	-

Additionally here are some statements from the pilots:
(i) **Bihan:** I shall fly the last plane to my destination.
(ii) **Chand:** Mine is the third flight to the same destination as Aman's flight.
(iii) **Fred:** I am going to fly the only plane to my destination.
(iv) **Dhruv:** I shall fly one of the only two planes going to Mumbai.
(v) **Aman:** The last flight of the day is to Delhi but I am not flying it.

Q.7 [11831809]
Which of the following is definitely TRUE about the plane that Esha is flying?

1 ◯ It takes off before Fred's flight.

2 ◯ It flies to Kochi.

3 ◯ It is the first flight of the day

4 ◯ It is to the same destination as Gita's flight.

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
There are 7 flights and 3 destinations. We can infer from the statements that there is a single flight to one destination and there are two flights to another destination. This means that there are 4 flights to the third destination.
From condition (ii), Chand says, "Mine is the third flight to the same destination as Aman's flight", this means that there are 4 flights to this destination.
From condition (v), Aman says that the last flight of the day is to Delhi but I am not flying it, which means that the flight at 19:00 hours is for Delhi.
From condition (iv), Dhruv (10:00 hours) says that he will fly one of the only two planes going to Mumbai and from condition (i), Bihan (17:00 hours) says that he will fly the last plane to his destination, (this destination cannot be Delhi as the last flight to Delhi is at 19:00 hours).
Since two planes are going to Mumbai, so one plane goes to Kochi and from condition (iii), it is Fred's plane (15:00 hours) as he states that he is going to fly the only plane to his destination.

Step 2:
The remaining three pilots, Aman, Esha and Gita are headed to Delhi, however the timings of their flights are not known, but Aman is not the last one to fly. Now, pilots and destinations for 10:00, 15:00 and 16:00 hours are fixed. The remaining four timings are for flights to Delhi and Chand takes the 3rd flight, which is at 14:00 hours.
The given information can be shown in the following table.

4	2	1
Delhi (Duration = 3.5 hours)	Mumbai (Duration = 2 hours)	Kochi (Duration = 1 hour)
7:00 (Aman/Esha/Gita)	10:00 (Dhruv)	15:00 (Fred)
12:00 (Esha/Gita/Aman)	16:00 (Bihan)	
14:00 (Chand)		
19:00 (Esha/Gita)		

Esha is not headed for Kochi but for Delhi. Her flight can be any one among the flights taking off at 7:00, 12:00 or 19:00 hours. It cannot be definitely said that Esha's flight takes off at 7:00 hours. So statements given in options (1), (2) and (3) are not definitely true. Aman, Chand, Esha and Gita are all headed for Delhi. Hence, only statement given in option (4) is true.

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Time	7:00	10:00	12:00	14:00	15:00	16:00	19:00
Pilot	-	Dhruv	-	-	Fred	Bihan	-

Additionally here are some statements from the pilots:
(i) **Bihan:** I shall fly the last plane to my destination.
(ii) **Chand:** Mine is the third flight to the same destination as Aman's flight.
(iii) **Fred:** I am going to fly the only plane to my destination.
(iv) **Dhruv:** I shall fly one of the only two planes going to Mumbai.
(v) **Aman:** The last flight of the day is to Delhi but I am not flying it.

Q.8 [11831809]
Which of the following cannot be the number of hours between Aman and Esha's flights?

1 ◯ 2 hours

2 ◯ 5 hours

3 ◯ 7 hours

4 ◯ 12 hours

Solution:
Correct Answer : 1

Answer key/Solution

Step 1:
There are 7 flights and 3 destinations. We can infer from the statements that there is a single flight to one destination and there are two flights to another destination. This means that there are 4 flights to the third destination.
From condition (ii), Chand says, "Mine is the third flight to the same destination as Aman's flight", this means that there are 4 flights to this destination.
From condition (v), Aman says that the last flight of the day is to Delhi but I am not flying it, which means that the flight at 19:00 hours is for Delhi.
From condition (iv), Dhruv (10:00 hours) says that he will fly one of the only two planes going to Mumbai and from condition (i), Bihan (17:00 hours) says that he will fly the last plane to his destination, (this destination cannot be Delhi as the last flight to Delhi is at 19:00 hours).
Since two planes are going to Mumbai, so one plane goes to Kochi and from condition (iii), it is Fred's plane (15:00 hours) as he states that he is going to fly the only plane to his destination.

Step 2:
The remaining three pilots, Aman, Esha and Gita are headed to Delhi, however the timings of their flights are not known, but Aman is not the last one to fly. Now, pilots and destinations for 10:00, 15:00 and 16:00 hours are fixed. The remaining four timings are for flights to Delhi and Chand takes the 3rd flight, which is at 14:00 hours.
The given information can be shown in the following table.

4	2	1
Delhi (Duration = 3.5 hours)	Mumbai (Duration = 2 hours)	Kochi (Duration = 1 hour)
7:00 (Aman/Esha/Gita)	10:00 (Dhruv)	15:00 (Fred)
12:00 (Esha/Gita/Aman)	16:00 (Bihan)	
14:00 (Chand)		
19:00 (Esha/Gita)		

Aman's flight can be the first or second flight for Delhi, which are at 7:00 hours and 12:00 hours respectively whereas Esha's flight can be the first, second or last flight for Delhi.
The difference between the timings of their flights can be:
5 hours (if their flights are 1st and 2nd), 7 hours (if their flights are 2nd and last), 12 hours (if their flights are 1st and last). Hence, the difference in their flight timings cannot be 2 hours.

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Time	7:00	10:00	12:00	14:00	15:00	16:00	19:00
Pilot	-	Dhruv	-	-	Fred	Bihan	-

Additionally here are some statements from the pilots:
(i) **Bihan:** I shall fly the last plane to my destination.
(ii) **Chand:** Mine is the third flight to the same destination as Aman's flight.
(iii) **Fred:** I am going to fly the only plane to my destination.
(iv) **Dhruv:** I shall fly one of the only two planes going to Mumbai.
(v) **Aman:** The last flight of the day is to Delhi but I am not flying it.

Q.9 [11831809]
If both Aman and Esha take off before Chand, then how many hours after Chand does Gita take off?

Solution:
Correct Answer : 5

Answer key/Solution

Step 1:
There are 7 flights and 3 destinations. We can infer from the statements that there is a single flight to one destination and there are two flights to another destination. This means that there are 4 flights to the third destination.
From condition (ii), Chand says, "Mine is the third flight to the same destination as Aman's flight", this means that there are 4 flights to this destination.
From condition (v), Aman says that the last flight of the day is to Delhi but I am not flying it, which means that the flight at 19:00 hours is for Delhi.
From condition (iv), Dhruv (10:00 hours) says that he will fly one of the only two planes going to Mumbai and from condition (i), Bihan (17:00 hours) says that he will fly the last plane to his destination, (this destination cannot be Delhi as the last flight to Delhi is at 19:00 hours).
Since two planes are going to Mumbai, so one plane goes to Kochi and from condition (iii), it is Fred's plane (15:00 hours) as he states that he is going to fly the only plane to his destination.

Step 2:
The remaining three pilots, Aman, Esha and Gita are headed to Delhi, however the timings of their flights are not known, but Aman is not the last one to fly. Now, pilots and destinations for 10:00, 15:00 and 16:00 hours are fixed. The remaining four timings are for flights to Delhi and Chand takes the 3rd flight, which is at 14:00 hours.
The given information can be shown in the following table.

4	2	1
Delhi (Duration = 3.5 hours)	Mumbai (Duration = 2 hours)	Kochi (Duration = 1 hour)
7:00 (Aman/Esha/Gita)	10:00 (Dhruv)	15:00 (Fred)
12:00 (Esha/Gita/Aman)	16:00 (Bihan)	
14:00 (Chand)		
19:00 (Esha/Gita)		

Both Aman and Esha take off before Chand. This means that Gita's flight is at 19:00 hours. We know that Chand's flight is at 14:00 hours. Hence, Gita's flight takes off 5 hours after Chand's flight.

Bookmark FeedBack

Directions for questions 7 to 10: Answer the questions based on the information given below.

Seven pilots, Aman, Bihan, Chand, Dhruv, Esha, Fred and Gita are scheduled to fly seven different airplanes from Chennai International airport to three different destinations - Mumbai, Delhi and Kochi. The flight to Mumbai takes 2 hours, the flight to Delhi takes 3.5 hours and the flight to Kochi takes 1 hour. The following airport log shows the departure times for the flights of the pilots. Some of the information is missing and has to be figured out in the course of answering the questions.

Time	7:00	10:00	12:00	14:00	15:00	16:00	19:00
Pilot	-	Dhruv	-	-	Fred	Bihan	-

Additionally here are some statements from the pilots:
(i) **Bihan:** I shall fly the last plane to my destination.
(ii) **Chand:** Mine is the third flight to the same destination as Aman's flight.
(iii) **Fred:** I am going to fly the only plane to my destination.
(iv) **Dhruv:** I shall fly one of the only two planes going to Mumbai.
(v) **Aman:** The last flight of the day is to Delhi but I am not flying it.

Q.10 [11831809]
Which of the following statements is TRUE regarding the above flight schedule?

1 ◯ At 15:35 there is exactly one flight that is yet to land.

2 ◯ At 16:05 there are three flights that are yet to land.

3 ◯ At 15:15 there are exactly two planes that are still flying.

4 ◯ At 17:35 there is exactly one plane flying.

Solution:
Correct Answer : 4

Answer key/Solution

Step 1:
There are 7 flights and 3 destinations. We can infer from the statements that there is a single flight to one destination and there are two flights to another destination. This means that there are 4 flights to the third destination.
From condition (ii), Chand says, "Mine is the third flight to the same destination as Aman's flight", this means that there are 4 flights to this destination.
From condition (v), Aman says that the last flight of the day is to Delhi but I am not flying it, which means that the flight at 19:00 hours is for Delhi.
From condition (iv), Dhruv (10:00 hours) says that he will fly one of the only two planes going to Mumbai and from condition (i), Bihan (17:00 hours) says that he will fly the last plane to his destination, (this destination cannot be Delhi as the last flight to Delhi is at 19:00 hours).
Since two planes are going to Mumbai, so one plane goes to Kochi and from condition (iii), it is Fred's plane (15:00 hours) as he states that he is going to fly the only plane to his destination.

Step 2:
The remaining three pilots, Aman, Esha and Gita are headed to Delhi, however the timings of their flights are not known, but Aman is not the last one to fly. Now, pilots and destinations for 10:00, 15:00 and 16:00 hours are fixed. The remaining four timings are for flights to Delhi and Chand takes the 3rd flight, which is at 14:00 hours.
The given information can be shown in the following table.

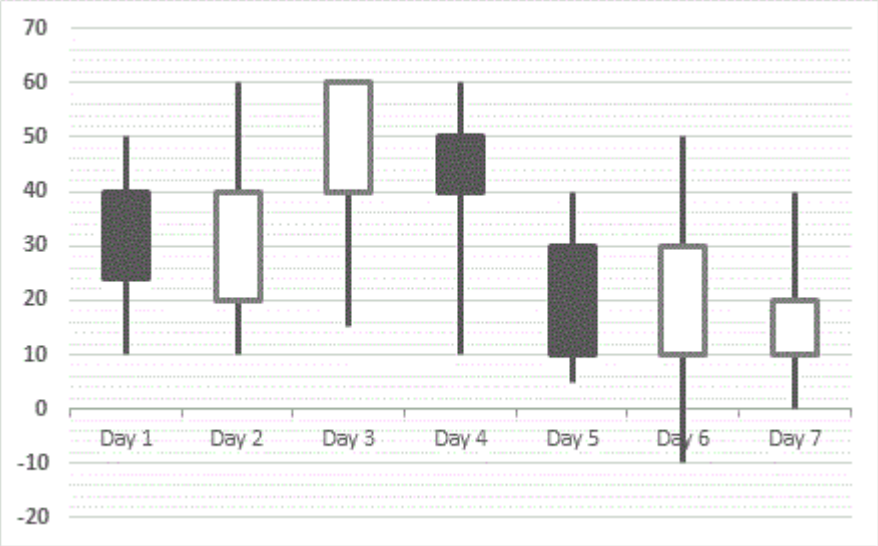
4	2	1
Delhi (Duration = 3.5 hours)	Mumbai (Duration = 2 hours)	Kochi (Duration = 1 hour)
7:00 (Aman/Esha/Gita)	10:00 (Dhruv)	15:00 (Fred)
12:00 (Esha/Gita/Aman)	16:00 (Bihan)	
14:00 (Chand)		
19:00 (Esha/Gita)		

Statement given in option (1) is not correct as At 15:35 Chand and Fred are still flying.
Statement given in option (2) is not correct as at 16:05 only Chand and Bihan are the only ones yet to land.
Statement given in option (3) is not correct as at 15:15 there are 3 planes that are still flying - namely those that take off at 12:00 hours, 14:00 hours and 15:00 hours.
Statement given in option (4) is correct as at 17:35 only Bihan's flight (16:00 hours) is still flying.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Rohit is a stock broker, who does “One-day trading”, which means that he buys stocks in the morning and sells them during the day. He invests in 7 different stocks on 7 different days of a week. Units of stocks are called shares. The shares of every stock purchased by Rohit from Day 1 through Day 7 are consecutive integral multiples of 10 in the given order.
The candlestick chart depicts the prices of these 7 stocks on the day that each one was purchased. The top and bottom ends of the line respectively indicate the maximum and minimum prices of the stock at any time on that day. The horizontal edges of the rectangle correspond to the stock’s opening and closing prices. If the rectangle is white, then the opening price is lower than the closing price, but if the rectangle is shaded, then the closing price is lower than the opening price. Rohit buys the shares of the stocks at the opening time, 9:00 AM and sells the shares of each stock at the closing time, 6:00 PM.
Further known information is that Rohit buys shares of each stock in a distinct consecutive quantity less than 100 in the integral multiples of 10 in the given order from Day 1 through day 7.



Q.11 [11831809]
If Rohit had a loss of Rs. 400 on a day in a week, then what was the total loss/profit (in Rs.) earned by Rohit at the end of each day in that week?

1 ◯ 2400

2 ◯ 1560

3 ◯ 1340

4 ◯ 1430

Solution:

Correct Answer : 3

Answer key/Solution

As per the candlestick chart:

	Open	High	Low	Close	Difference	Multiply by 10
Day 1	40	50	10	24	–16	–160
Day 2	20	60	10	40	20	200
Day 3	40	60	15	60	20	200
Day 4	50	60	10	40	–10	–100
Day 5	30	40	5	10	–20	–200
Day 6	10	50	–10	30	20	200
Day 7	10	40	0	20	10	100

Since Rohit had a loss of Rs. 400 in a day, then it must be day 4. He should have bought 10, 20, 30, 40, … and 70 shares of the stock from day 1 to day 7 respectively.

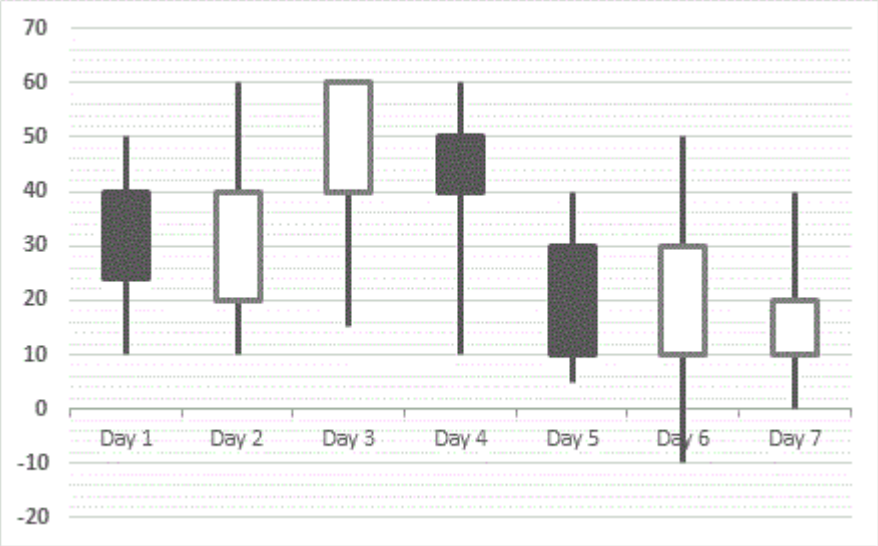
Therefore, the total profit earned by Rohit in the week is

= –160 + 200 × 2 + 200 × 3 + (–100) × 4 + (–200) × 5 + 200 × 6 + 100 × 7 = Rs. 1,340.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Rohit is a stock broker, who does “One-day trading”, which means that he buys stocks in the morning and sells them during the day. He invests in 7 different stocks on 7 different days of a week. Units of stocks are called shares. The shares of every stock purchased by Rohit from Day 1 through Day 7 are consecutive integral multiples of 10 in the given order.
The candlestick chart depicts the prices of these 7 stocks on the day that each one was purchased. The top and bottom ends of the line respectively indicate the maximum and minimum prices of the stock at any time on that day. The horizontal edges of the rectangle correspond to the stock’s opening and closing prices. If the rectangle is white, then the opening price is lower than the closing price, but if the rectangle is shaded, then the closing price is lower than the opening price. Rohit buys the shares of the stocks at the opening time, 9:00 AM and sells the shares of each stock at the closing time, 6:00 PM.
Further known information is that Rohit buys shares of each stock in a distinct consecutive quantity less than 100 in the integral multiples of 10 in the given order from Day 1 through day 7.



Q.12 [11831809]
If Rohit earned a total profit of Rs. 1,580 in the week, then what was the total minimum value (in Rs.) of shares of each stock bought by Rohit at any time of the day in the week?

1 ◯ 1900

2 ◯ 1200

3 ◯ 1400

4 ◯ 1120

Solution:

Correct Answer : 2

Answer key/Solution

As per the candlestick chart:

	Open	High	Low	Close	Difference	Multiply by 10
Day 1	40	50	10	24	–16	–160
Day 2	20	60	10	40	20	200
Day 3	40	60	15	60	20	200
Day 4	50	60	10	40	–10	–100
Day 5	30	40	5	10	–20	–200
Day 6	10	50	–10	30	20	200
Day 7	10	40	0	20	10	100

Case 1: If Rohit bought 10, 20, 30, 40, … and 70 shares of the stock from day 1 to day 7 respectively, then the total profit earned by Rohit in the week is Rs. 1,340.

Case 2: If Rohit bought 20, 30, … and 80 shares of the stocks from day 1 to day 7 respectively he will earn the profit of Rs. 1,580.

Case 3: If he bought 30, 40, … and 90 shares of the stocks from day 1 to day 7 respectively, he will earn the profit of Rs. 1,820.

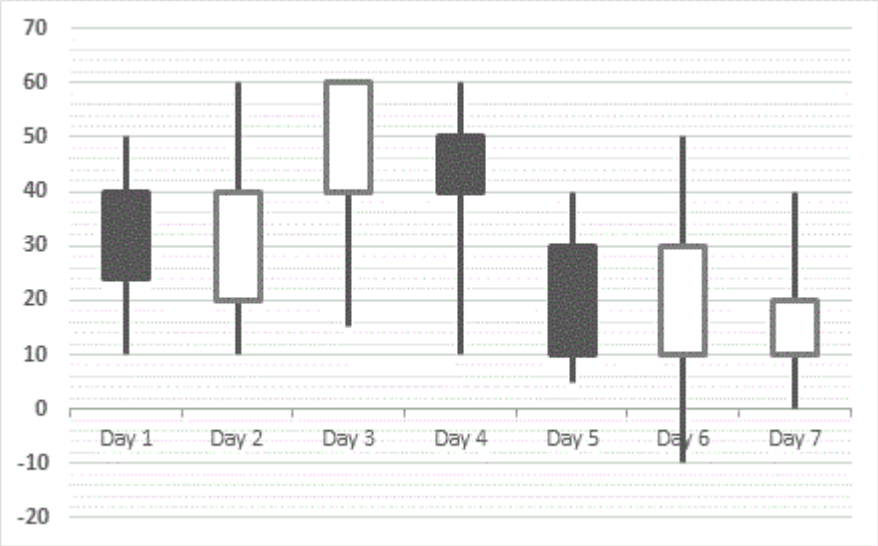
Hence, case 2 is valid.

The total minimum value of shares Rohit could have earned at any time of the day = 200 + 300 + 600 + 500 + 300 – 700 + 0 = Rs. 1,200.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Rohit is a stock broker, who does “One-day trading”, which means that he buys stocks in the morning and sells them during the day. He invests in 7 different stocks on 7 different days of a week. Units of stocks are called shares. The shares of every stock purchased by Rohit from Day 1 through Day 7 are consecutive integral multiples of 10 in the given order.
The candlestick chart depicts the prices of these 7 stocks on the day that each one was purchased. The top and bottom ends of the line respectively indicate the maximum and minimum prices of the stock at any time on that day. The horizontal edges of the rectangle correspond to the stock’s opening and closing prices. If the rectangle is white, then the opening price is lower than the closing price, but if the rectangle is shaded, then the closing price is lower than the opening price. Rohit buys the shares of the stocks at the opening time, 9:00 AM and sells the shares of each stock at the closing time, 6:00 PM.
Further known information is that Rohit buys shares of each stock in a distinct consecutive quantity less than 100 in the integral multiples of 10 in the given order from Day 1 through day 7.



Q.13 [11831809]
If Rohit lost Rs. 1,000 on a particular day, then what was the average profit (in Rs.) per day earned by him at the end of the days with no loss?

1 ◯ 725

2 ◯ 850

3 ◯ 733

4 ◯ 675

Solution:
Correct Answer : 1

Answer key/Solution

As per the candlestick chart:

	Open	High	Low	Close	Difference	Multiply by 10
Day 1	40	50	10	24	–16	–160
Day 2	20	60	10	40	20	200
Day 3	40	60	15	60	20	200
Day 4	50	60	10	40	–10	–100
Day 5	30	40	5	10	–20	–200
Day 6	10	50	–10	30	20	200
Day 7	10	40	0	20	10	100

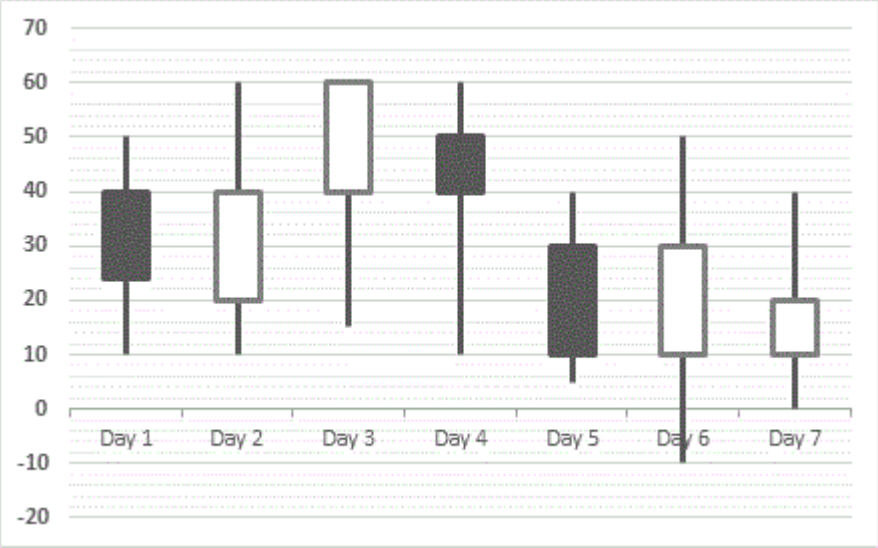
Rohit had a loss of Rs. 1,000 on a day, which is as per the table possible on Day 5 only.
$-200x = -1000$
$\Rightarrow x = 5$
The number of shares of each stock bought by Rohit from Day 1 to Day 7 is 10, 20, 30, ..., 70.
On Day 2, day 3, day 6 and day 7 he earned the profits.

Hence, average profit per day = $\frac{400 + 600 + 1200 + 700}{4}$ = Rs.725.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Rohit is a stock broker, who does “One-day trading”, which means that he buys stocks in the morning and sells them during the day. He invests in 7 different stocks on 7 different days of a week. Units of stocks are called shares. The shares of every stock purchased by Rohit from Day 1 through Day 7 are consecutive integral multiples of 10 in the given order.
The candlestick chart depicts the prices of these 7 stocks on the day that each one was purchased. The top and bottom ends of the line respectively indicate the maximum and minimum prices of the stock at any time on that day. The horizontal edges of the rectangle correspond to the stock’s opening and closing prices. If the rectangle is white, then the opening price is lower than the closing price, but if the rectangle is shaded, then the closing price is lower than the opening price. Rohit buys the shares of the stocks at the opening time, 9:00 AM and sells the shares of each stock at the closing time, 6:00 PM.
Further known information is that Rohit buys shares of each stock in a distinct consecutive quantity less than 100 in the integral multiples of 10 in the given order from Day 1 through day 7.



Q.14 [11831809]
If the profit earned by Rohit at the end of 2 out of 7 days during the week was Rs.800 each, then what was the total number of shares of each stock purchased by him during the week?

1 ◯ 280

2 ◯ 450

3 ◯ 330

4 ◯ 350

Solution:

Correct Answer : 4

Answer key/Solution

As per the candlestick chart:

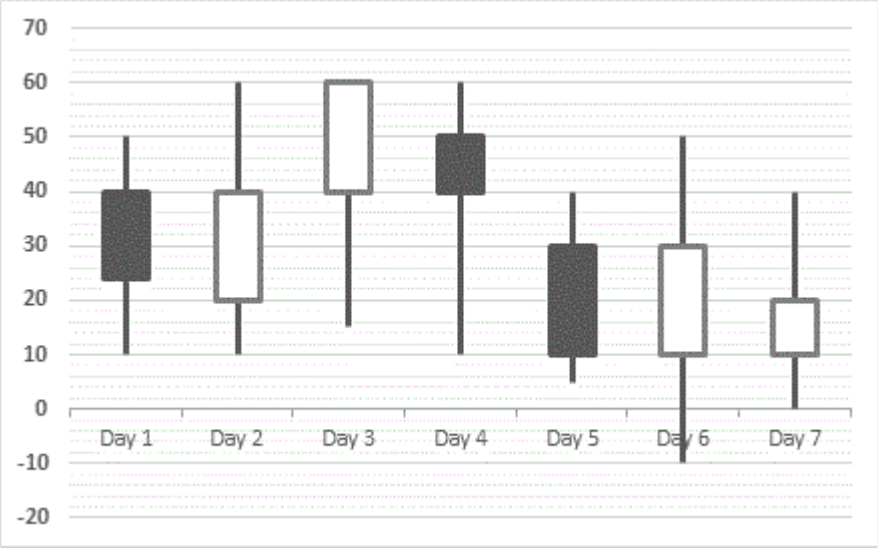
	Open	High	Low	Close	Difference	Multiply by 10
Day 1	40	50	10	24	–16	–160
Day 2	20	60	10	40	20	200
Day 3	40	60	15	60	20	200
Day 4	50	60	10	40	–10	–100
Day 5	30	40	5	10	–20	–200
Day 6	10	50	–10	30	20	200
Day 7	10	40	0	20	10	100

Since on 2 out of 7 days of the week, Rohit earned the profits of Rs. 800, it is possible only if Rohit bought 20, 30, 40, … , 80 shares of the stock from day 1 to day 7, which is total of 350.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Rohit is a stock broker, who does “One-day trading”, which means that he buys stocks in the morning and sells them during the day. He invests in 7 different stocks on 7 different days of a week. Units of stocks are called shares. The shares of every stock purchased by Rohit from Day 1 through Day 7 are consecutive integral multiples of 10 in the given order.
The candlestick chart depicts the prices of these 7 stocks on the day that each one was purchased. The top and bottom ends of the line respectively indicate the maximum and minimum prices of the stock at any time on that day. The horizontal edges of the rectangle correspond to the stock’s opening and closing prices. If the rectangle is white, then the opening price is lower than the closing price, but if the rectangle is shaded, then the closing price is lower than the opening price. Rohit buys the shares of the stocks at the opening time, 9:00 AM and sells the shares of each stock at the closing time, 6:00 PM.
Further known information is that Rohit buys shares of each stock in a distinct consecutive quantity less than 100 in the integral multiples of 10 in the given order from Day 1 through day 7.



Q.15 [11831809]
If Shweta, who is a friend of Rohit, invests in a similar manner as Rohit, but buys a lesser number of shares of each stock than Rohit, then what will be the maximum total profit (in Rs.) earned by Shweta and Rohit together at any time on the second day of the week?

1 ◯ 4200

2 ◯ 3500

3 ◯ 2800

4 ◯ 1400

Answer key/Solution

Solution:

Correct Answer : 2

As per the candlestick chart:

	Open	High	Low	Close	Difference	Multiply by 10
Day 1	40	50	10	24	–16	–160
Day 2	20	60	10	40	20	200
Day 3	40	60	15	60	20	200
Day 4	50	60	10	40	–10	–100
Day 5	30	40	5	10	–20	–200
Day 6	10	50	–10	30	20	200
Day 7	10	40	0	20	10	100

Shweta and Rohit invest in a similar manner but Shweta buys lesser number of shares of each stock than Rohit.

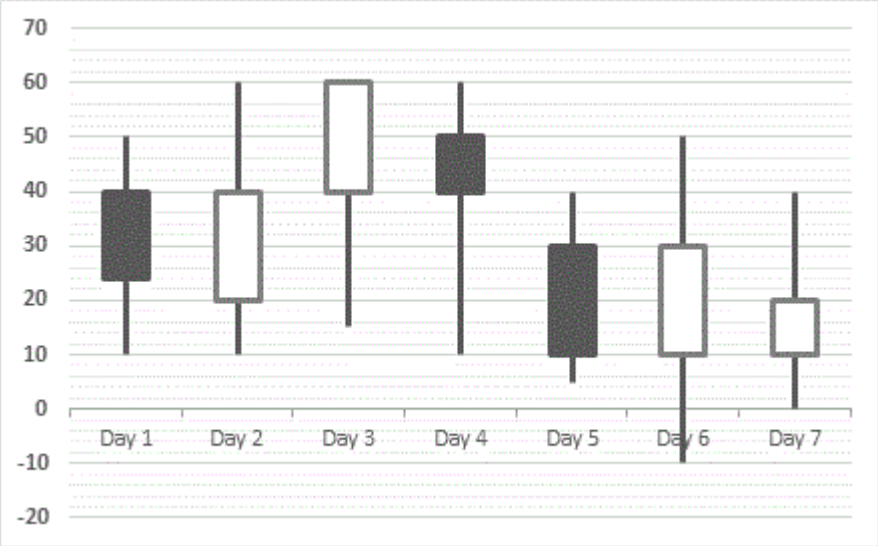
So, in order to maximize the total profit earned by both Shweta and Rohit at any time of the second day, Shweta must have bought 30 shares and Rohit must have bought 40 shares of the stock on day 2.

Hence, maximum profit = (60 – 10) × (30 + 40) = 50 × 70 = Rs. 3,500.

Bookmark FeedBack

Directions for questions 11 to 16: Answer the questions on the basis of the information given below.

Rohit is a stock broker, who does “One-day trading”, which means that he buys stocks in the morning and sells them during the day. He invests in 7 different stocks on 7 different days of a week. Units of stocks are called shares. The shares of every stock purchased by Rohit from Day 1 through Day 7 are consecutive integral multiples of 10 in the given order.
The candlestick chart depicts the prices of these 7 stocks on the day that each one was purchased. The top and bottom ends of the line respectively indicate the maximum and minimum prices of the stock at any time on that day. The horizontal edges of the rectangle correspond to the stock’s opening and closing prices. If the rectangle is white, then the opening price is lower than the closing price, but if the rectangle is shaded, then the closing price is lower than the opening price. Rohit buys the shares of the stocks at the opening time, 9:00 AM and sells the shares of each stock at the closing time, 6:00 PM.
Further known information is that Rohit buys shares of each stock in a distinct consecutive quantity less than 100 in the integral multiples of 10 in the given order from Day 1 through day 7.



Q.16 [11831809]
If Rohit earned a profit of Rs. 1,600 on a particular day of the week, then what was the total returns (in Rs.) earned by him at the end of each day during the whole week?

1 ◯ 14,450

2 ◯ 12,620

3 ◯ 12,440

4 ◯ 14,480

Solution:

Correct Answer : 2

Answer key/Solution

As per the candlestick chart:

	Open	High	Low	Close	Difference	Multiply by 10
Day 1	40	50	10	24	–16	–160
Day 2	20	60	10	40	20	200
Day 3	40	60	15	60	20	200
Day 4	50	60	10	40	–10	–100
Day 5	30	40	5	10	–20	–200
Day 6	10	50	–10	30	20	200
Day 7	10	40	0	20	10	100

Since Rohit earned Rs. 1,600 on a day as a profit, therefore, he must have bought 30, 40, 50, …, 90 shares of the stock from day 1 to day 7 respectively.
Hence, his returns at the end of each day during the whole week = 720 + 1600 + 3000 + 2400 + 700 + 2400 + 1800 = Rs. 12,620.

Bookmark FeedBack

Directions for questions 17 to 20: Answer the questions on the basis of the information given below.

Frieda and John begin a sequence of hops on a 5 × 5 grid of squares, moving one square on each hop and choosing the direction of each hop at random - up, down, left, or right. They do not hop diagonally. When the direction of a hop takes them off the grid, they jump to the opposite edge. For example, if Frieda begins in the center square (–10) and makes three hops “up”, the second hop would place her in the top row middle square, then the third hop would cause Frieda to jump “down” to the opposite edge, landing in the bottom row middle square.

Columns (C) Rows (R)	1	2	3	4	5
1	–1	10	–9	9	3
2	–5	–6	14	7	–2
3	–8	4	–10	0	13
4	1	11	5	–3	2
5	8	–4	6	12	–7

Both Frieda and John begin from a different cell of the grid by randomly picking the row and column and make a certain number of hops. They keep on adding the number in the cell they hop into starting from the number in the cell they begin with, such that, whoever gets a higher sum, wins.
Note: A player cannot hop back on to an already visited cell in a game.

Q.17 [11831809]

If Frieda and John begin from R3C4 and R5C1 respectively and hop exactly 3 times, then what could be their maximum sum possible?

Solution:

Correct Answer : 53

Answer key/Solution

Columns (C) Rows (R)	1	2	3	4	5
1	–1	10	–9	9	3
2	–5	–6	14	7	–2
3	–8	4	–10	0	13
4	1	11	5	–3	2
5	8	–4	6	12	–7

Frieda – R2C4 → R1C4 → R5C4 (0 + 7 + 9 + 12 = 28)
John – R4C1 → R4C2 → R4C3 (8 + 1 + 11 + 5 = 25)
Hence, maximum sum possible is 28 + 25 = 53.

Bookmark FeedBack

Directions for questions 17 to 20: Answer the questions on the basis of the information given below.

Frieda and John begin a sequence of hops on a 5 × 5 grid of squares, moving one square on each hop and choosing the direction of each hop at random - up, down, left, or right. They do not hop diagonally. When the direction of a hop takes them off the grid, they jump to the opposite edge. For example, if Frieda begins in the center square (–10) and makes three hops "up", the second hop would place her in the top row middle square, then the third hop would cause Frieda to jump "down" to the opposite edge, landing in the bottom row middle square.

Columns (C) Rows (R)	1	2	3	4	5
1	–1	10	–9	9	3
2	–5	–6	14	7	–2
3	–8	4	–10	0	13
4	1	11	5	–3	2
5	8	–4	6	12	–7

Both Frieda and John begin from a different cell of the grid by randomly picking the row and column and make a certain number of hops. They keep on adding the number in the cell they hop into starting from the number in the cell they begin with, such that, whoever gets a higher sum, wins.

Note: A player cannot hop back on to an already visited cell in a game.

Q.18 [11831809]

John and Frieda both hop exactly 3 times either towards right or towards left. If John begins from R1C3 and Frieda definitely loses, then from which of the following cells could she have started?

1 ◯ R4C2

2 ◯ R4C4

3 ◯ R5C1

4 ◯ R2C2

Answer key/Solution

Solution:

Correct Answer : 4

If John hops towards left side 3 times, his score will be 3 and if he hops 3 times towards right, his score will be 2. Since Frieda must lose, her score should be less than 2.

Columns (C) Rows (R)	1	2	3	4	5
1	–1	10	–9	9	3
2	–5	–6	14	7	–2
3	–8	4	–10	0	13
4	1	11	5	–3	2
5	8	–4	6	12	–7

Let us calculate the possible scores of Frieda, if she starts at the given cells:

1. R4C2 = (11 + 5 – 3 + 2 = 15) or (11 + 1 + 2 – 3 = 11)
2. R4C4 = (–3 + 2 + 1 + 11 = 11) or (–3 + 5 + 11 + 1 = 14)
3. R5C1 = (8 – 4 + 6 + 12 = 22) or (8 – 7 + 12 + 6 = 19)
4. R2C2 = (–6 + 14 + 7 – 2 = 13) or (–6 – 5 – 2 + 7 = –6)

Hence, Frieda can lose if she starts from R2C2.

Bookmark FeedBack

Directions for questions 17 to 20: Answer the questions on the basis of the information given below.

Frieda and John begin a sequence of hops on a 5 × 5 grid of squares, moving one square on each hop and choosing the direction of each hop at random - up, down, left, or right. They do not hop diagonally. When the direction of a hop takes them off the grid, they jump to the opposite edge. For example, if Frieda begins in the center square (–10) and makes three hops "up", the second hop would place her in the top row middle square, then the third hop would cause Frieda to jump "down" to the opposite edge, landing in the bottom row middle square.

Columns (C) Rows (R)	1	2	3	4	5
1	–1	10	–9	9	3
2	–5	–6	14	7	–2
3	–8	4	–10	0	13
4	1	11	5	–3	2
5	8	–4	6	12	–7

Both Frieda and John begin from a different cell of the grid by randomly picking the row and column and make a certain number of hops. They keep on adding the number in the cell they hop into starting from the number in the cell they begin with, such that, whoever gets a higher sum, wins.
Note: A player cannot hop back on to an already visited cell in a game.

Q.19 [11831809]
Frieda and John begin from R2C1 and R2C5 respectively and make three hops – up, right, and down - in any order, then which of the following statements is true?

1 ◯ If John hops down first, he will always win.

2 ◯ If John hops up first, he will always lose.

3 ◯ If Frieda hops down first, she will always lose.

4 ◯ If Frieda hops up first, she will always win.

Solution:
Correct Answer : 3

Answer key/Solution

Columns (C) Rows (R)	1	2	3	4	5
1	–1	10	–9	9	3
2	–5	–6	14	7	–2
3	–8	4	–10	0	13
4	1	11	5	–3	2
5	8	–4	6	12	–7

Possible sums for Frieda are: (–5 – 1 + 10 – 6 = –2) and (–5 – 8 + 4 – 6 = –15)
Possible sums for John are: (–2 + 3 – 1 – 5 = –5) and (–2 + 13 – 8 – 5 = –2)
Hence, if Frieda will hop down, she will always lose.

Bookmark FeedBack

Directions for questions 17 to 20: Answer the questions on the basis of the information given below.

Frieda and John begin a sequence of hops on a 5 × 5 grid of squares, moving one square on each hop and choosing the direction of each hop at random - up, down, left, or right. They do not hop diagonally. When the direction of a hop takes them off the grid, they jump to the opposite edge. For example, if Frieda begins in the center square (–10) and makes three hops "up", the second hop would place her in the top row middle square, then the third hop would cause Frieda to jump "down" to the opposite edge, landing in the bottom row middle square.

Columns (C) Rows (R)	1	2	3	4	5
1	–1	10	–9	9	3
2	–5	–6	14	7	–2
3	–8	4	–10	0	13
4	1	11	5	–3	2
5	8	–4	6	12	–7

Both Frieda and John begin from a different cell of the grid by randomly picking the row and column and make a certain number of hops. They keep on adding the number in the cell they hop into starting from the number in the cell they begin with, such that, whoever gets a higher sum, wins.
Note: A player cannot hop back on to an already visited cell in a game.

Q.20 [11831809]
Let John's total score be 20 at the end. If Frieda and John both hops for exactly 2 times, then maximum how many cells of column 4 can Frieda begin from, in order to win?

Solution:

Correct Answer : 4

Answer key/Solution

Frieda needs 21 points to win.
If she starts from R1C4 (9), she can win. 9 → 7 → 14
If she starts from R2C4 (7), she can win. 7 → 9 → 12.
If she starts from R3C4 (0), she can win. 0 → 7 → 14
If she starts from R4C4 (–3), she cannot win.
If she starts from R5C4 (12), she can win. 12 → 6 → 5
Hence, if Frieda begins from 4 out of 5 cells in column 4, she can win.

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