

Exercise: Simple LINQ - 5%

Marking Rubric (2 Marks)

Weight	Breakdown
2	Proficient (requirement is met)
1	Limited (requirement is satisfactorily met, several errors)
0	Incomplete (requirement poorly/not met, major errors, missing large portions)

Ten marks in total, with a possibility of a penalty for insufficient commits, commented-out code, or improper file names.

All queries must use the LINQ Method Syntax, not Query Syntax..

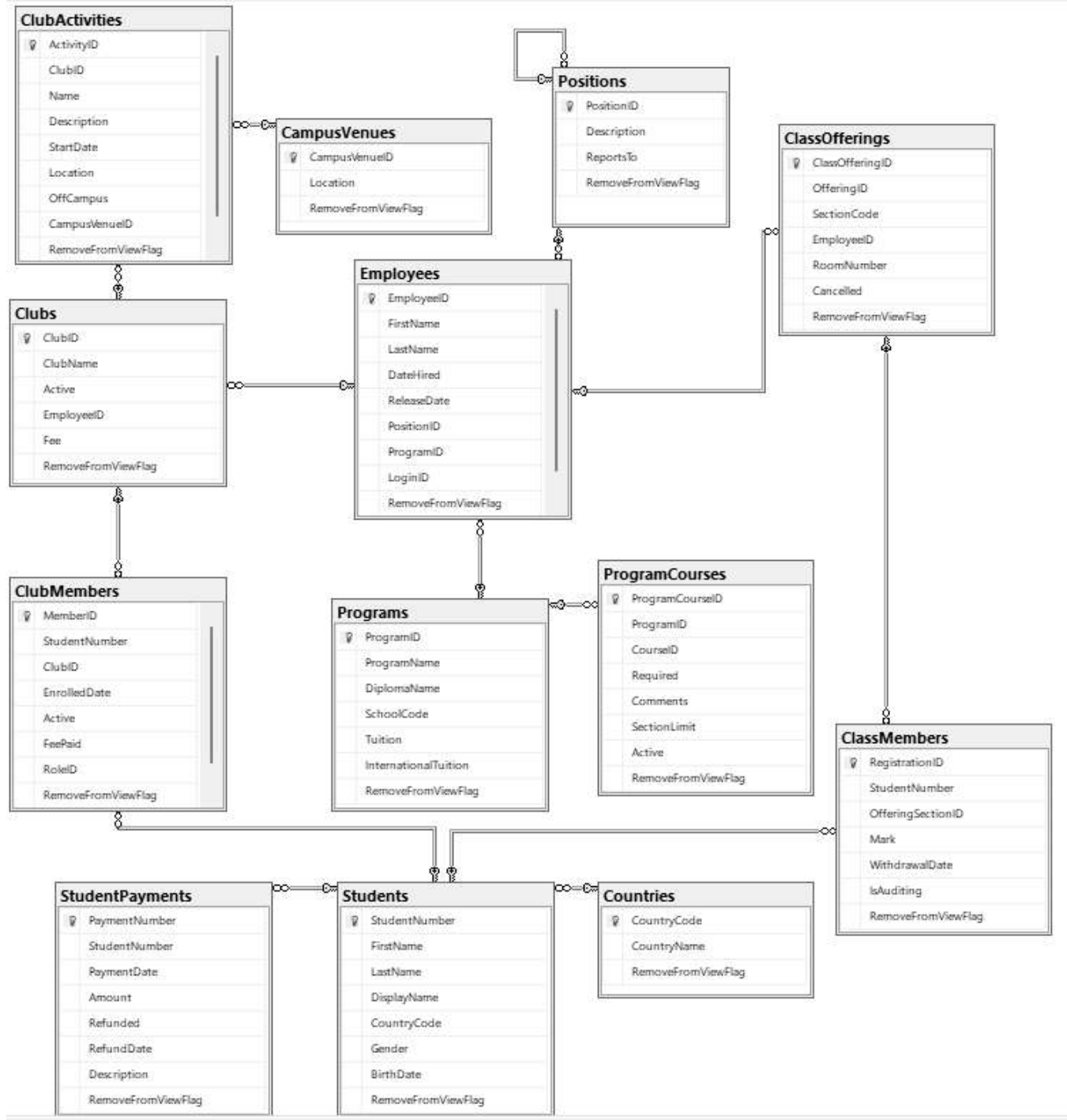
- You must select the C# Statement for your language type.
- Do not comment out any of your code. All answers should display when executed.
- You can comment out code if YOU DO NOT WISH FOR ME TO MARK IT!!!!
- All queries must be save to a single file with using the following naming schema:
"Take-home 1 - Your Name.linq"

WARNING

- DO NOT USE ANY OF THE FOLLOWING
 - AI REFERENCE (ChatGPT, Meta.AI, etc).
- Doing so may subject you to academic discipline.

Overview

This exercise is based on the StartTed-2025-Sept. For this exercise, provide your answers as a LinqPad (.linq) document. Use a single LinqPad document containing all questions (you must use Statements as the LinqPad environment). You must commit to your repository after completing each question.



Assessment Questions

Question 1 (2 Marks)

Story:

As the Student Life Analyst at NAIT, you've been asked by the Dean of Student Affairs to help promote engagement in all student clubs—especially those holding events off the beaten path. The Dean wants a clear, chronological lineup of every upcoming club activity (starting January 1, 2025) that takes place somewhere other than the standard "Scheduled Room," and isn't just the routine BTech Club meeting. This will feed into the new "Get Out & Get Involved" social-media campaign and guide students toward discovering fresh experiences on and off campus.

Requirements:

The report should include only those club activities scheduled on or after January 1, 2025, omitting any whose campus venue is labeled "Scheduled Room" or whose name is "BTech Club Meeting." For each qualifying event, it must list the event's start date, the venue name, the hosting club's name, and the activity title, and then present all entries in ascending order by start date.

▲ IOrderedQueryable<> (65 items) ...			
StartDate	Location	Club	Activity
2025-01-03 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Wednesday Game Night
2025-01-05 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film
2025-01-05 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Friday Game Night
2025-01-06 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-01-07 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-01-10 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Wednesday Game Night
2025-01-12 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film
2025-01-12 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Friday Game Night
2025-01-13 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-01-14 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-01-17 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Wednesday Game Night
2025-01-19 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film
2025-01-19 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Friday Game Night
2025-01-20 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-01-21 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-01-24 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Wednesday Game Night
2025-01-26 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film
2025-01-26 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Friday Game Night
2025-01-27 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-01-28 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-01-31 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Wednesday Game Night
2025-02-02 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film
2025-03-16 3:15:00 PM	W202	Gamers of Dungeons and Dragons	Friday Game Night
2025-03-17 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-03-18 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-03-23 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film
2025-03-24 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-03-25 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-03-30 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film
2025-03-31 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-04-01 6:00:00 PM	Outdoor Sports Field	INTERNATIONAL SOCCER CLUB	Soccer Practice
2025-04-06 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film
2025-04-13 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film
2025-04-20 2:00:00 PM	Nexus Theatre	International Students Club	Film Series: From books to film

Question 2 (2 Marks)

Story:

As the Academic Planning Analyst at NAIT, you've been asked to generate a comprehensive overview of every program offered across our schools that meets accreditation requirements. Your report will translate each school code into a friendly name, tally how many courses in each program are mandatory versus optional, and then highlight only those programs that have at least twenty-two required courses, so department heads can prioritize resourcing and scheduling decisions.

Requirements:

You must map SchoolCode to its full school name ("SAMIT" → "School of Advance Media and IT", "SEET" → "School of Electrical Engineering Technology", all others → "Unknown"), include each program name, count the number of required courses and optional courses, filter to only those with required course count greater than or equal to 22, and order the final list by program name in ascending order.

▲ IOrderedQueryable<> (8 items) ...			
School	Program	RequiredCourseCount	OptionalCourseCount
School of Electrical Engineering Tech.	Avionics Engineering Technology	24	4
School of Electrical Engineering Tech.	Biomedical Engineering Technology	23	3
School of Applied Media and IT	Digital Media and IT	23	50
School of Electrical Engineering Tech.	Electronics Engineering Technology	22	1
School of Electrical Engineering Tech.	Instrumentation Engineering Technology	22	2
School of Electrical Engineering Tech.	Network Engineering Technology	22	4
School of Applied Media and IT	Photographic Technology	26	23
School of Applied Media and IT	Radio and Television - Radio	23	2
		185	89

Question 3 (2 Marks)

Story:

As the International Student Services Officer, you need to identify all non-Canadian students who have not yet made any tuition payments. This allows your team to reach out proactively and assist them in completing their registration. You'll also provide each student's home country and indicate whether they've joined any campus clubs—to gauge their level of campus engagement.

Requirements:

You must filter Students to those with zero entries in StudentPayments and country is not from "Canada", then order by last name ascending. For each student, report their Student Number, the full country name, their full name, and a club membership count that displays "None" if they belong to no clubs or the actual number of club memberships otherwise.

^ IOrderedQueryable<> (14 items) ...			
StudentNumber	CountryName	FullName	ClubMembershipCount
20092163	KOREA, REPUBLIC OF KOREA	Kemberly Bavuso	None
20093835	BURKINA FASO	Naveed Collmer	None
20094397	CZECH REPUBLIC	Coilean Fermin	None
20094325	MOLDOVA, REPUBLIC OF	Fareed Harlock	None
20090179	CHRISTMAS ISLAND	Sadie Hrenew	1
20091545	ICELAND	Raymond Hyska	None
20090180	LIBYAN ARAB JAMAHIRIYA	James Kreeg	None
20092391	MONGOLIA	Caprice Laraque	None
20091600	DJIBOUTI	Jaropelk Lattig	None
20092218	BARBADOS	Felim Placensia	None
20093908	UNITED ARAB EMIRATES	Isaiah Rainwater	None
20090048	SLOVAKIA	Gwen Rocco	1
20093675	BRITISH INDIAN OCEAN TERRITORY	Romeo Salhab	None
20093342	GUINEA	Beverlee Widmyer	None
281293806			

Question 4 (2 Marks)

Story:

As the Department Chair, you want to review all active instructors currently teaching classes this term. You need a ranked list showing each instructor's program affiliation, their full name, and a simple workload category—so you can balance teaching assignments and offer support where needed.

Requirements:

You must select employees those whose position is an "Instructor", the release date is null, and who have taught at least one class in ClassOfferings, then order first by descending number of class offerig and then by LastName. For each instructor, report their program name, full name, and a WorkLoad label of "High" if they teach more than 24 offerings, "Med" if more than 8, or "Low" otherwise.

▲ IOrderedQueryable<> (123 items) ...		
ProgramName	FullName	WorkLoad
Computer Network Administrator	Alexandrea Agras	High
Computer Network Administrator	Milti Allfredson	High
Telecommunications Engineering Technology	Gloria Amondale	High
Photographic Technology	Geoff Amour	High
Biomedical Engineering Technology	Crag Antmor	High
Radio and Television - Radio	Rózsí Bimler	High
Photographic Technology	Ptolemy Blewett	High
Computer Network Administrator	Justice Buffordson	High
Computer Engineering Technology	Kaisa Caudell	High
Radio and Television - TV	Dirk Chipper	High
Bachelor of Applied Information Technology	Valorie Chudnovsky	High
Network Engineering Technology	Leif Cipollina	High
Photographic Technology	Adena Coffell	High
Photographic Technology	Vince Common	High
Biomedical Engineering Technology	Nakia Conenna	High
Bachelor of Applied Information Technology	Tonita Crusco	High
Telecommunications Engineering Technology	June Cusher	High
Photographic Technology	Norris Dannen	High
Bachelor of Applied Information Technology	Yoró Daughine	High
Computer Engineering Technology	Wilma Williamsson	High
Avionics Engineering Technology	Sulema Wojtanowski	High
Computer Engineering Technology	Zack Zygone	High
Computer Engineering Technology	Ippolit Bess	Med
Bachelor of Applied Information Technology	Devorah Diblasi	Med
Graphic Communications	Alin Guinness	Med
Telecommunications Engineering Technology	Gilad Hysom	Med
Radio and Television - TV	Ragnhild Voas	Med
Electronics Engineering Technology	Edmond Zwernemann	Med
Radio and Television - Radio	Grazyna Amshoff	Med
Radio and Television - Radio	Geordie Dys	Med
Network Engineering Technology	Sanjeev Femling	Med
Electrical Engineering Technology	Dorothee Gainous	Med
Radio and Television - Radio	Rosalynne Gertner	Med
Radio and Television - TV	Malinda Giuliatti	Med
Radio and Television - TV	Horace Homitz	Med
Radio and Television - TV	Fulgencio Kurvers	Med
Radio and Television - Radio	Ngai Sopchak	Med
Biomedical Engineering Technology	Pancho Uhe	Med
Radio and Television - Radio	Silvestro Abott	Low
Digital Media and IT	Shura Lipovsky	Low
Bachelor of Applied Information Technology	Zenzi Minutolo	Low
Photographic Technology	Sandy Parry	Low

Graphic Communications	Isis Shennett	Low
Computer Network Administrator	Denis Zeeb	Low

Question 5 (2 Marks)

Story:

As the Vice-President of Student Clubs, you've been tasked with producing a snapshot of all clubs on campus. Your report will list each club's faculty supervisor, membership size, and upcoming activity count—so you can recognize high-performing clubs and identify those that may need support.

Requirements:

Your report must contain supervisor (use "Unknown" if Employee is null, otherwise full name), club name, member count (the number of entries in ClubMembers table), and Activities (display "None Schedule" if ClubActivities.Count() == 0, otherwise the count). Finally, order the list by member count in descending order.

- IOrderedQueryable<> (38 items) ...			
Supervisor	Club	MemberCount	Activities
Unknown	Enactus NAIT	29	59
Dwayne Energy	Computer Info Processing Society	28	None Schedule
Percy St. James	Mechanical Student Association	28	446
Jose Jemenez	Occupational Health and Safety Student Society	28	78
Unknown	Super NAITSA Anime Club	25	150
Unknown	League of Legends Club	25	83
Crag Antmor	Biological Sciences Technology Club	25	154
Unknown	Environmental Design Student Society	24	98
Unknown	Association of Computing Machinery	24	None Schedule
Sia Latter	NAIT Staff Association	24	None Schedule
Unknown	Log Rolling Club @ NAIT	22	62
Cher Power	NAIT Student Association	22	None Schedule
Nole Itall	NAIT Chess Club	21	None Schedule
Unknown	Chemical Technology Student Council	21	161
Unknown	Bachelor of Technology Club	21	103
Natty Allton	Civil Engineering Technology	21	104
Chris Riddleton	Construction Engineering Technology Student Club	20	79
Cherry Pillson	Respiratory Therapy 2018	20	180
Unknown	Chinese Bible Study Fellowship at NAIT	19	64
Unknown	Martial Arts Club @ NAIT	18	183
Unknown	International Students Club	18	177
Unknown	IINTONAITion Toastmasters	17	None Schedule
Unknown	Crafting Club	17	54
Unknown	INTERNATIONAL SOCCER CLUB	17	90
Johnny Spotson	Captioning and Court Reporting Club at NAIT	16	58
Unknown	Pakistani & Indian Students Association	16	None Schedule
Unknown	Latter-day Saint Student Association	16	92
Unknown	Muslim Student Association at NAIT	16	51
Unknown	Business Connex	15	138
Unknown	DataBase Task Group	15	None Schedule
Donna Bookem	NAIT Support Staff Association	14	None Schedule
Crag Antmor	Medical Transcription Peer Support	13	103
Unknown	Exercise is Medicine Canada @ NAIT	13	115
Jerry Kan	Computer System Society	13	None Schedule
Unknown	Gamers of Dungeons and Dragons	12	269
Unknown	Investment Club of NAIT	12	64
Unknown	Juggling Club	10	59
Unknown	Super Smash Bros. Club	10	58
		725	