



Sir Syed University of Engineering & Technology
Faculty of Computing & Applied Sciences
Department of Computer Science

Online End Semester Examinations (Fall 2020)

Course Code with Title	CS127 Object Oriented Programming		Program	BS (Computer Science)
Instructor	Mr. Haris Ahmed		Semester	2 nd
Start date & Time	November 11, 2020 at 10:30 AM	Submission Deadline	November 11, 2020 at 03:30 PM	
Maximum Marks	50			
Students must meet their submission deadline as there is no re-take or re-attempt after the deadline.				

IMPORTANT INSTRUCTIONS:

Read the following Instructions carefully:

- All Questions should be solved on Visual Studio/Microsoft SQL Server or any other software tool. Codes and output screenshots must be converted to PDF format before submission.
- Those students, who don't have laptop or required software tools, are allowed to solve Questions on paper with proper comments wherever necessary.
- Finally, solutions of all questions must be converted in a single PDF file format in sequence. (Use any suitable Mobile Application for Scanning)
- Attach the scanned copy of your CNIC. In case you don't have CNIC then attach the scanned copy of your father's CNIC.
- Arrange questions and their subsequent parts in sequence.
- Make sure that your answers are not plagiarized or copied from any other sources. In case of plagiarism, **ZERO** marks will be awarded.
- Provide relevant, original and conceptual answers, as this exam aims to test your ability to examine, explain, modify or develop concepts discussed during the course.
- Recheck your answer before the submission on **VLE** to correct any content or language related errors.
- You must upload your answers via the VLE platform ONLY.

You must follow general guideline for students before online examination and during online examination which had already shared by email and WhatsApp.

This paper has a total of 03 pages including this title page



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Q.1. (15)

Create a class sum with three overloaded constructors;

- i. `sum(int x)` calculate and display the sum of all even numbers between 5 to $(X+20)$.
- ii. `sum(int x, int y)` calculate and display the sum of all odd numbers between X to $(Y+25)$.
- iii. `sum(int x, int y, int z)` calculate and display the sum all numbers between 1 to $(X+Y+Z)$.

Where

- “X” will be the sum of last 2 digits of your CNIC Number, e.g. for CNIC Number: 42101-1234567-8 $\rightarrow 7+8=15$, the value of X will be 15)
- “Y” will be the sum of last 3 digits of your CNIC Number, e.g. for CNIC Number: 42101-1234567-8 $\rightarrow 6+7+8=21$, the value of Y will be 21)
- “Z” will be the sum of last 4 digits of your CNIC Number, e.g. for CNIC Number: 42101-1234567-8 $\rightarrow 5+6+7+8=26$, the value of Z will be 26)

Note: In case you don't have CNIC then use your father's CNIC number.

Q.2. (10)

A company pays its salesman on a commission basis. The salesman receives $\$(900+X)$ per month plus X% of their gross sales for that month. You've been supplied with a list of the items sold by each salesman.

The values of these items are as follows:

Item Value

- 1----- 6000
- 2----- 1200
- 3----- 8000
- 4----- 3400

Develop a C# app that inputs one salesman's items sold for the last month, then calculates and displays that salesman's earnings. There's no limit to the number of items that can be sold by a Salesman.

(Where “X” will be the sum of last 4 digits of your CNIC Number, e.g. for CNIC Number: 42101-1234567-8 $\rightarrow 5+6+7+8=26$, the value of X will be 26)



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Q.3.**(10)****Employee Table**

EMP_NO.	EMP_NAME	JOB	HIREDATE	SALARY	COMM	DEPT_NO
1213	Ali	Clerk	17-DEC-2017	9030	--	10
1214	Ahsan	Salesman	18-FEB-2018	16199	3020	20
1215	Salman	Salesman	15-APR-2019	12228	5120	20
1216	Zia	Manager	15-APR-2020	25032	--	10
1217	Adeel	Salesman	25-MAY-2020	15010	4099	20
1218	Ahmed	Salesman	25-MAY-2020	13156	2260	20

Consider the above table 'Employee'. Write SQL commands for the statements (a) to (d).

- Display all the details of the employees whose commission is less than (**X+4000**).
- Display the details of all employees who are getting commission more than (**X+3000**).
- How many employees draw (**X+12000**) to (**X+16000**) salary?
- Display average salary of all employees who are getting commission more than (**X+3000**).

(Where "X" must be your roll number, e.g. for roll no. 2020-CS-010 the value of X would be 10)

Q.4.**(15)**

Write a program in C# to read a one dimensional integer array of size N (N elements) from the user, linearly search X in array. If X is present then return its index, otherwise return -9, and sort the array in ascending order by using bubble sort technique.

Where

- "N" will be the sum of last 3 digits of your CNIC Number, e.g. for CNIC Number: 42101-1234567-8 → 6+7+8= 21, the value of N will be 21
- "X" must be total number of characters in your first name, e.g. for name: Ali Ahmed the value of X would be 3