

Course No: CS-1001	Course Name: Programming Fundamental
Instructor Name: Sumaiyah Zahid	Section:
Student Roll No:	

"If there is something, you don't know today, You will surely learn afterwards. Life is not an exam hall."

BEST OF LUCK!

Total Marks: 60

Time Allowed: 90 minutes.

Instructions:

- Your Student ID must be written on the paper.
- For Exam submission: Submit the .c file for each question named as **Q1.c, Q2.c** on Google Classroom.

Question # 1:

A customer needs a specific amount of paper. The charges on the paper are \$0.10 for single sheets, \$0.055 for amounts in multiples of 100 sheets, \$0.04 in multiples of 500 sheets. Develop a solution to calculate the type and number of package(s) for the least amount of money the customer should buy, given the minimum amount of sheets the customer needs. For example, if the customer needs 380 sheets, the amount she would pay when buying in multiples of 100 would be \$22.00. However, if the customer bought 500 sheets, the cost would be \$20.00. It would be cost effective for the customer to buy a package of 500 sheets.

[Marks: 10 Time: 20 mins]

```
How many sheets you need to buy?380
Your total cost is $20.000000
You bought 500.000000 sheets for a minimum price.
-----
Process exited after 2.326 seconds with return value 49
Press any key to continue . . .
```

Question # 2:

[Marks: 20 Time: 30 mins]

Write a welcome program in C that asks the user for his roll number in three variables such as year, location, roll_number, (i.e 21=Batch 21, k=Karachi, 2493=roll_number) then prints following message according to his year and location.

For Year:

- 21----→ Freshmen
- 20----→ Sophomores
- 19----→ Juniors
- 18----→ Seniors

For Location:

- K= Karachi
- L= Lahore
- I= Islamabad

If location is Karachi, program should print the sum of digits of roll number.
If location is Lahore, program should print the multiplication of last two digits of roll number.
If location is Islamabad, program should print cube of last digit of roll number.

Welcome to FAST

Enter your batch : 21

Enter character in your roll number: k

Enter last 4 digits in your roll number: 2493

Hello freshmen, welcome to FAST Karachi ☺

Your result is: 18

[Marks: 20 Time: 40 mins]

Question # 3:

Daraz is having a grand sale on 11/11. The sale is opening from 7th November and will end on 11 November. You can avail a 20% discount on all items on first day, 18% discount on 8th November and so on.

Product	Price
A	150\$
B	200\$
C	250\$
D	180\$

Make a C program to display a menu to the user. He should be able to purchase as many products until total discount is less than 200\$. Program should display the summary of products purchased and total along with the total discount.

Welcome to Daraz

Enter the date: 9

You are eligible for 16% discount on all the items you buy. Happy Shopping ☺

Enter the product you want to purchase or n to exit: A

Enter the product you want to purchase or n to exit: B

Enter the product you want to purchase or n to exit: B

Enter the product you want to purchase or n to exit: C

Enter the product you want to purchase or n to exit: n

You bought 1 product A

2 product B

1 product C

Your Total Bill is: 800\$

Your Discount is: 128\$

Your Net Bill is: 672\$