# Basic Input and Output & Math

1. Write a c program to print your name, student id, date of birth and mobile number.

***Note: End of the line print a new line.***

| Input | Output |
| --- | --- |
|  | My Name : Nella Hasan  My ID : 211-11-111  My DOB : 16 October 2022  My Mobile : +8801870179066 |

1. Your teacher would like to make a screen with the following characteristics:
   1. 1st line print 40 (\*)
   2. 2nd line print ( | ) at the 1st and 40th position. And inside that, give 2 tab space (1 tab = 4 space) and then print **‘DIU’**.
   3. Follow point (b) and instead of ‘DIU’ print **‘CIS’**.
   4. Follow point (b) and instead of “DIU’ print **‘17’**.
   5. Follow the point (a).

***Note: End of the line print a new line.***

| Input | Output |
| --- | --- |
|  | \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  | DIU |  | CIS |  | 17 |  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* |

1. Take 3 character variables a, b and c. Take input from the user and store it. After that print in structural format shown below.

**First Line:**

* 1. Print the letter A, a space, the equals sign, a blank, the character stored in the first variable (a).
  2. Print the letter B, a space, the equals sign, a blank, the character stored in the first variable (b).
  3. Print the letter C, a space, the equals sign, a blank, the character stored in the first variable (c).

**Second Line:**

* 1. Print the letter A, a space, the equals sign, a blank, the character stored in the first variable (b).
  2. Print the letter B, a space, the equals sign, a blank, the character stored in the first variable (c).
  3. Print the letter C, a space, the equals sign, a blank, the character stored in the first variable (a).

**Third Line:**

* 1. Print the letter A, a space, the equals sign, a blank, the character stored in the first variable (c).
  2. Print the letter B, a space, the equals sign, a blank, the character stored in the first variable (a).
  3. Print the letter C, a space, the equals sign, a blank, the character stored in the first variable (b).

| Input | Output |
| --- | --- |
| a  c  d | A = a, B = c, C = d  A = c, B = d, C = a  A = d, B = a, C = c |
| 1  2  3 | A = 1, B = 2, C = 3  A = 2, B = 3, C = 1  A = 3, B = 1, C = 2 |

1. Make a program that takes input his/her name, university name, faculty name and department name and show the desired output. Before taking any input from the user print a hint for example: if the user is trying to input the name then the name should be shown on the console. ***Look at the input line 3.***

| Input | Output |
| --- | --- |
| **Name:** Nella Hasan  **University:** Daffodil International University  **Faculty:** Science and Information Technology  **Department:** Computing and Information System | **Student Name:** Nella Hasan  **University Name:** Daffodil International University  **Faculty Name:** Science and Information Technology  **Department Name:** Computing and Information System |
| **Name:** Fahad Ali  **University:** AIUB  **Faculty:** FSIT  **Department:** BBA | **Student Name:** Fahad Ali  **University Name:** AIUB  **Faculty Name:** FSIT  **Department Name:** BBA |
| **Name:**  **University:**  **Faculty:**  **Department:** |  |

1. Imagine your friend gives you a date in the format of (dd/mm/yyyy) and asks you to convert in a different format like.
   1. mm-dd-yyyy
   2. yy/dd/mm
   3. dd-yy-mm

Your work is to automate it via c programming.

| Input | Output |
| --- | --- |
| 21/02/2023 | 02-21-2023  23-21-02  21-23-02 |
| 08/05/2024 | 05-08-2024  24-08-05  08-24-05 |

1. Take 3 numbers from the user and then follow the instruction given below.
   1. Print 4 digits after number 1
   2. Print 3 digits after number 2
   3. Print 5 digits after number 3
   4. Print 1 digits after number 1

Print the number sequences before taking input for a clear view look at the input section. When printing the output print A, B, C, D before each instruction.

| Input | Output |
| --- | --- |
| Number 1: 1.25648256356  Number 2: 5.626100  Number 3: 4 | A = 1.2565  B = 5.626  C = 4.00000  D = 1.3 |

1. To complete this task, you need to input two integer values and then multiply them. Store the result of the multiplication in a variable named "multiply". Finally, print the value of the "multiply" variable in the format shown in the example below.

| Input | Output |
| --- | --- |
| Number 1: 9  Number 2: 5 | Multiply: 45 |

1. To solve this problem, you should input four integer values: A, B, C, and D. Then, compute the difference between the product of A and B and the product of C and D **(A \* B - C \* D)**. Finally, print the resulting value of this calculation.

| Input | Output |
| --- | --- |
| Number 1: 9  Number 2: 5  Number 3: 8  Number 4: 100 | Result is: -755 |
| Number 1: 80  Number 2: 4  Number 3: 6  Number 4: 30 | Result is: 140 |

1. Make a c program to calculate the area of the triangle. Take base and height input from the user.

| Input | Output |
| --- | --- |
| Base: 5  Height: 10 | Area of Triangle: 25 |

1. Make a c program to calculate the area of the rectangular. Take length and width input from the user.

| Input | Output |
| --- | --- |
| Length: 5  Width: 3 | Area of Rectangular: 15 |

1. Make a program to calculate the perimeter of the rectangular. Take length and width input from the user.

| Input | Output |
| --- | --- |
| Length: 85  Width: 13 | Perimeter of Rectangular: 196 |

1. Make a c program to calculate the area of the cylinder. Take radius and height input from the user.

| Input | Output |
| --- | --- |
| Radius: 6  Height: 10 | Area of cylinder: 603.19 |

1. Write a C program that accepts an employee's ID, total worked hours of a month and the amount he received per hour. Print the employee's ID and salary (with two decimal places) of a particular month.

| Input | Output |
| --- | --- |
| Employees ID: 342  working hrs: 8  Salary amount/hr: 15000 | Employees ID = 342  Salary = 120000.00 Taka |

1. Write a C program for **int a = 10/45\*23%45/(45%4\*21)**
2. Write a C program to Print true if following statements are right otherwise print false
   1. **4>5 && 5>4**
   2. **4>5 || 5>4**
3. To determine a car's average fuel consumption, you need to know the total distance traveled (in kilometers) and the total amount of fuel used (in liters). Using this information, you can calculate the car's average fuel consumption.

| Input | Output |
| --- | --- |
| 500  35.0 | 14.286 km/l |
| 2254  124.4 | 18.119 km/l |

1. The objective of this problem is to input various pieces of information related to two products, including the product code, number of units purchased, and unit price. Once all the necessary information has been entered for both products, you need to calculate the total amount to be paid for the entire purchase. Finally, the resulting value should be displayed.

| Input | Output |
| --- | --- |
| 12 **1 5.30**  16 **2 5.10** | Total Cost: 15.50 |

1. Make a c program to calculate the area of the sphere. Take radius and width input from the user.

| Input | Output |
| --- | --- |
| Radius: 6 | Area of sphere: 452.39 |

1. Make a c program to calculate the sum and average of 4 numbers. Take this number from the users.

| Input | Output |
| --- | --- |
| Number 1: 80  Number 2: 4  Number 3: 6  Number 4: 30 | Sum: 120  Average: 30 |

1. Make a c program to calculate the Farenheit to celsius. The formula is **(90°F − 32) × 5/9**.

| Input | Output |
| --- | --- |
| Farenheit: 90 | Fahrenheit 90 = celsius 32.22 |