

PART A

- 1. Print all natural numbers from 1 to n.**
- 2. Print sum of even numbers between 1 to n.**
- 3. Print sum of even numbers in given range.**
- 4. Print all odd numbers from 1 to n.**
- 5. Print odd numbers in given range.**
- 6. Print all factors of a number.**
- 7. Print sum of odd numbers from 1 to n.**
- 8. Print sum of odd numbers from in given range.**
- 9. Base salary of a person is 50000. and he also get 40% bonus of house rent and 15% bonus of other. print gross salary.**
- 10. Write a program in C to display the cube of the number upto given an integer.**
- 11. Write a program in C to display the n terms of odd natural number and their sum.**
- 12. Write a program in C to display the pattern like right angle triangle with a number.**

The pattern like :

13. Write a program in C to make such a pattern like right angle triangle with number increased by 1

The pattern like :

```
1
2 3
4 5 6
7 8 9 10
```

14. Write a program in C to display the pattern like a diamond.

```
*
***
*****
*****
*****
*****
*****
*****
***
*
```

15. Write a C Program to display the pattern like pyramid using the alphabet.

```
A
A B A
A B C B A
A B C D C B A
```

16. Write a C program to find whether a given year is a leap year or not.

17. Write a C program to find the largest of three numbers.

18.. Write a C program to read temperature in centigrade and display a suitable message according to temperature state below.

Temp < 0 then Freezing weather

Temp 0-10 then Very Cold weather

Temp 10-20 then Cold weather

Temp 20-30 then Normal in Temp

Temp 30-40 then Its Hot

Temp >=40 then Its Very Hot

Test Data :

42

Expected Output :

Its very hot.

19. Write a C program to check whether a triangle can be formed by the given value for the angles.

20. Write a C program to check whether a character is an alphabet, digit or special character.

21. Write a C program to check whether an alphabet is a vowel or consonant.

22. Write a program in C to read any day number in integer and display day name in the word.

23. Write a program in C to read any Month Number in integer and display Month name in the word.

24. Write a program in C to read any Month Number in integer and display the number of days for this month.

25. Write a program that converts Centigrade to Kelvin.

Part B

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

2. Write a C program to print the following characters in a reverse way.

Test Characters: 'X', 'M', 'L'

Expected Output:

The reverse of XML is LMX

3. Write a C program to convert specified days into years, weeks and days.

4. Write a C program to calculate the distance between the two points.

5. Write a C program to calculate the value of S where $S = 1 + 1/2 + 1/3 + \dots + 1/50$.

6. Write a C program to accept two integers and check whether they are equal or not.

7. Write a C program to check whether a given number is positive or negative.

8. Write a C program that calculates the volume of a sphere.

9. Write a C program to find the third angle of a triangle if two angles are given.

10. Write a C program to convert height feet to centimetre.

11. Write a C program to perform addition, subtraction, multiplication and division of two numbers if they are even.

12. Write a C program to calculate the average of two number if they are odd.

13. Write a C program to calculate the division of two number if they are negative.

13. Input the height and base of a triangle from console and calculate the area of the triangle.

- 14. Input two number from console and multiply them if 1st number less than 2nd number.**
- 15. Input a number from console and print if the number less than 20 and grater than 5.**
- 16. Input character from console and print x^2+4y+c .**
- 17. Make A multiplication table for 1.**
- 18. Make A multiplication table for 1 To 10.**
- 19. Print the numbers between 100 to 200 which are completely divisible by 3 and 5.**
- 20. Find summation and average of all the numbers which are completely divisible by 3, 5 and 12 between 10 – 500. [Like 60 is divisible by all of those].**
- 21. Suppose you are going to apply for admission in a college. If you got GPA 5 in SSC exam then you can apply for that college. Now give your GPA as input from the keyboard and print “YES” if you can apply otherwise print “NO”.**
- 22. You are going to open a bank account . If your age is greater than 18 then you can open an account. Get your age by input and print “Yes” if you can open an account otherwise print “No”.**
- 23. Write a program to display “A” to “Z” using loop .**
- 24. Write a program to produce the following output using loop-**

1

2 4

3 6 9

4 8 12 16

5 10 15 20 25

6 12 18 24 30 36

25..Write a program which will display all the prime numbers between 0 to N(N will be given by the user).

If user gives N = 20, your code will print the following output-

2 3 5 7 11 13 17 19.

Part C

1. Write a program to print the following output: Hello world!!!

**2. Write a code to print the following output: Name: Mr. X Univ:
University of Dhaka**

3. Write a program to print the following output: * * ***** *****
***** ***** ***** *****

4. Take three integer variables a, b and c. Assign values to the variables- a = 10, b = 20 and c = 30; Now print the sum of these three variables

5. Read 2 integer values and store them in variables, named A and B and make the sum of these two variables, assigning its result to the

variable X. Print X as shown below. The input file contains 2 integer values. A=10, B=9.

6. The formula to calculate the area of a circumference is defined as $A = \pi \cdot R^2$. Considering to this problem that $\pi = 3.14159$:

7. Read two floating points' values of double precision A and B, corresponding to two student's grades. After this, calculate the student's average, considering that grade A has weight 3.5 and B has weight 7.5. Each grade can be from zero to ten, always with one digit after the decimal point.

8. Read three values (variables A=5.0, B=6.0 and C=7.0), which are the three student's grades. Then, calculate the average, considering that grade A has weight 2, grade B has weight 3 and the grade C has weight 5. Consider that each grade can go from 0 to 10.0, always with one decimal place.

Output: Average=6.3

*9. Read four integer values named A, B, C and D. Calculate and print the difference of product A and B by the product of C and D ($A * B - C * D$).*

10. Write a program that reads an employee's number, his/her worked hours number in a month and the amount he received per hour. Print the employee's number and salary that he/she will receive at end of

the month, with two decimal places.

Input Samples:

25 100 5.50

Output:

NUMBER = 25 SALARY = U\$ 550.00

11. Take four double variables x, y, z and avg. Assign values to x, y and z as you want. Now calculate the average of x, y and z and assign it to avg. Finally print the average value like- Average of x, y and z is:

—

12. Print “Bangladesh” without quotation sign by using ascii values.

[Use the given ascii values- B=66, a=97, n=110, g=103, l=108, a=97, d=100, e=101, s=115, h=104.

13. Make a program that reads a seller's name, his/her fixed salary and the sale's total made by himself/herself in the month (in money). Considering that this seller receives 15% over all products sold, write the final salary (total) of this seller at the end of the month, with two decimal places.

Input Samples:

JOAO 500.00 1230.30

Output Samples:

TOTAL = R\$ 684.54

14. Rahul got 65.00 on physics, 83.50 on mathematics, 85.75 on C programming and 67.50 on English. Now write a program to calculate the average of his marks on 4 subjects and print it up to 2 digits after the decimal point. [The result should look like: XX.XX]

15. In this problem, the task is to read a code of a product 1, the number of units of product 1, the price for one unit of product 1, the code of a product 2, the number of units of product 2 and the price for one unit of product 2. After this, calculate and show the amount to be paid.

Input Samples:

12 1 5.30 16 2 5.10

Output Sample:

VALOR A PAGAR: R\$ 15.50

16. Take two integer variables $i = 0$ and $j = 0$. Now write the output of the following program without running the code.

17. Take four integer variables a, b, x and y. Scan the values of the variables from user using scanf() function. Now print the output of the following equation: $(a*b) + (x*y)$

18. Take temperature of Dhaka city as input in Celsius scale from the user using scanf() function and convert it to Fahrenheit and print it.[Formula: $F = C(9/5) + 32$]

19. Take a small letter alphabet as input from the user and print the capital version of that letter. [If user gives input 'a' you should print 'A']

20. Make a program that calculates and shows the volume of a sphere being provided the value of its radius (R). The formula to calculate the volume is:

$(4/3) * \pi * R^3$. Consider (assign) for pi the value 3. 14159.Tip: Use $(4/3.0)$ or $(4.0/3)$ in your formula, because some languages (including C++) assume that the division's result between two integers is another integer.

Input sample:

3 Output Sample:

VOLUME = 113.097

21. Suppose you are going to apply for admission in a college. If you got GPA 5 in SSC exam then you can apply for that college. Now give your GPA as input from the keyboard and print “YES” if you can apply otherwise print “NO”.

22. Make a program that reads three floating point values: A, B and C. Then, calculate and show: a) the area of the rectangled triangle that has base A and height C. b) the area of the radius's circle C. ($\pi = 3.14159$) c) the area of the trapezium which has A and B by base, and C by height. d) the area of the square that has side B. e) the area of the rectangle that has sides A and B.

23. Take a value from user and assume that- it is the number of his math exam. Now you have to write a program which shows the grade depending on the given scale. (A+: 80-100, A: 70-79, A-: 60-69, B: 50-59, C: 40-49, D :33-39 ,F :0-32)

24. Calculate a car's average consumption being provided the total distance traveled (in Km) and the spent fuel total (in liters).

Input Sample:

500 35.0

Output Sample:

14.286 km/l

25. You are going to open a bank account. If your age is greater than 18 then you can open an account. Get your age by input and print “Yes” if you can open an account otherwise print “No”.

26. Write a program which determines whether a number is ODD or EVEN.

27. Take an integer number as input from user and print “Yes” if the number is divisible by 3 and 5. And print “No” if the number is not.

28. Read the four values corresponding to the x and y axes of two points in the plane, p1 (x1, y1) and p2 (x2, y2) and calculate the distance between them, showing four decimal places after the comma, according to the formula: Distance =

29. Take 3 integers from user using scanf() function and write a program to find the maximum one.

30. Two cars (X and Y) leave in the same direction. The car X leaves with a constant speed of 60 km/h and the car Y leaves with a constant speed of 90 km / h. In one hour (60 minutes) the car Y can get a distance of 30 kilometers from the X car, in other words, it can get away one kilometer for each 2 minutes. Read the distance (in km) and calculate how long it takes (in minutes) for the car Y to take this distance in relation to the other car.

31. Take a small letter alphabet as input and print whether it is VOWEL or CONSONANT.

32. Little John wants to calculate and show the amount of spent fuel liters on a trip, using a car that does 12 Km/L. For this, he would like you to help him through a simple program. To perform the calculation, you have to read spent time (in hours) and the same average speed (km/h). In this way, you can get distance and then, calculate how many liters would be needed. Show with three decimal places after the point. input Sample: 10 85

Output:

70.833

33. Write a program that takes an integer as input [1 – 12] and print the corresponding month name. [If user gives input '1' you should print 'January'].

34. You are given the rank and salary scale of a company-

Rank – salary

1 – 2,50,000 BDT

2 – 2,10,000 BDT

3 – 1,50,000 BDT

4 – 80,000 BDT

>=5 – 50,000 BDT

Now, take the rank as input from the user and print the salary of the given rank. [If user gives input '3' you should print 'Your Salary: 1,50,000 BDT']

35. Take two integers indicating the x and y coordinate of a two-dimensional graph paper where the center point is $x = 0$ and $y = 0$. Now print the quadrant of the given point. [If user gives input (4,5) you should print 'First quadrant'; If user gives input (-4, -5) you should print 'Third quadrant']

36. Print the EVEN numbers between 1 to 100 using loop

37. Print the numbers between 100 to 200 which are completely divisible by 3 and 5.

38. Write a program to print the following output using loop.

**

*

**39. Take an integer as input and print it's multiplication table up to 10.
If user gives 5, your output should look like the following example-**

$$5 * 1 = 5$$

$$5 * 2 = 10$$

$$5 * 10 = 50$$

40. Write a program which will print the summation of the given series-

$$101 + 99 + 97 + + 3 + 1 = ?$$

41. Write a program to program to print the following output using loop-

*

Blank Line

*** * ***

Blank Line

*** * * * ***

Blank Line

*** * * * ***

42. Write a program to print the following output using loop-

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

43. Write a program to display “A” to “Z” using loop.

44. Print the summation of squares of all numbers from 5 to 25.

$$25 + 36 + 49 + 64 \dots\dots + 576 + 625 = ?$$

45. Write a program which will take an integer N from user and print all the numbers between N to -32. Stop your program when user will give N= -1 as input.

46. Write a program which will take an integer N as input from user and print Fibonacci series up to N. If user gives input N = 15, you should print-

0 1 1 2 3 5 8 13

47. Write a program to print the following output in the given format using loop-

1 1

12 21

123 321

1234 4321

12345 54321

48. Find summation and average of all the numbers which are completely divisible by 3, 5 and 12 between 10 – 500. [Like 60 is

divisible by all of those]

49. Write a program to produce the following output using loop-

1

2 4

3 6 9

4 8 12 16

5 10 15 20 25

6 12 18 24 30 36

50. Write a program which will display all the prime numbers between 0 to N (N will be given by the user).

If user gives N = 20, your code will print the following output-

2 3 5 7 11 13 17 19.

Submission process:

- 1. First write down the program in your pc and save dot c file (.c).**
- 2. Make a folder and put all programs into it and make it zip.**

3. Must Submit the assignment on time.

4. Don't submit the assignment in classroom stream or in comment