## Basic expression programs:

1. Write a program to print “HELLO WORLD”

Hint print(“…

1. Write a program to print “Name and Address”

Hint print(“…

1. Write a program to print no and its square.

Hint a=5

print(“

1. Write a program to take two numbers and print Addition, Multiplication, Subtraction, Division.

Hint a=20 , b=2

print

print

print

print

1. Write a program to find the area of a circle (3.14\*r\*r)

Hint r=10

print(

1. Write a program to calculate simple interest using I = PRN/100 (P= Principle amount, R = Rate of Interest, N = Number of Years)

Hint p=10000,r=2,n=2

print(

1. Write a program to find the area of a Triangle (0.5\*H\*B)

Hint H=100,B=200

print(

## Input/Output programs:

1. Write a program to print no and its square.

Hint a=int(input(…..

print(…

1. Write a program to take two numbers and print Addition, Multiplication, Subtraction, Division.

Hint a=int(input(…. , b=int(input(….

print(

1. Write a program to find the average temperature of five sunny days.

Hint day1=int(input(… , day2,day3,day4,day5

print

1. Write a program to find the area of a circle (3.14\*r\*r)

Hint r=float(input(…

1. Write a program to calculate simple interest using I = (P\*R\*N)/100 (P= Principle amount, R = Rate of Interest, N = Number of Years)

Hint p=float(input( , r= float(input( , n = float(input(

print(“Interest =

1. Write a program to find the area of a Triangle (0.5\*H\*W)

Hint h=float(input( , w= float(input(

print(“Area of Triangle =

1. Convert meter to centimetre

Hint meter=float(input(

print(“Centimetre =

1. Write a program to enter the temperature in feranhit and convert it to Celsius.[C=(f-32)\*5/9]

Hint f=float(input(

print(“Celsius =

1. Write a program to calculate Gross Salary and Net Salary print Grade of employee

|  |  |
| --- | --- |
| BASIC = 8000 | ma= 10% of basic |
| da = 52% of basic | ltc= 5% of basic |
| hra= 10% of basic | va= 10% of basic |

Gross Salary = basic + da + hra + ma + Itc + va

Net Salary = Gross Saiary - PF

Hint salary=int(input(“Enter Salary

Da=salary\*

Ma=

Hra=

Va=

Netsalary=

print(“Final Salary =>

1. Write a program to swap contents of the two variables

Hint a=int(input( , b=int(input

print(“Before swap a = “,a ,” b = “,b)

logic..

print(“After swap a = “,a ,” b = “,b)

1. Write a program to swap contents of the two variables without use of third variable

Hint a=int(input( , b=int(input

print(“Before swap a = “,a ,” b = “,b)

logic..

print(“After swap a = “,a ,” b = “,b)

1. Write a program to display the last digit of a number.
2. You bought 9 packets of potato chips from a store. Each packet costs 1.49 dollar and you gave shopkeeper 20 dollar. Find out using python, how many dollars is the shopkeeper going to give you back?
3. You want to replace tiles in your bathroom which is exactly square and 5.5 feet is its length. If tiles cost 500 rs per square feet, how much will be the total cost to replace all tiles. Calculate and print the cost using python

## If else programs

**1. Find out the maximum between 2 values.**

*Example:*

* Enter no1 => 22
* Enter no2 => 33
* Output: 33 is max.

**2. Enter one value and check whether that number is 5 or not.**

*Example:*

* Enter no => 5
* Output: Yes, no is 5.
* If 6 then Output: Sorry, no is not 5.

**3. Enter one value and check whether that number is greater than 5 or not.**

*Example:*

* Enter no => 57
* Output: Yes, no is > 5.
* If 3 then Output: Sorry, no is < 5.

**4. Write a Python program to accept two integers and check whether they are equal or not.**

*Example:*

* Enter no1 => 57
* Enter no2 => 57
* Output: Yes, both are equal.

**5. Write a Python program to read the age of a candidate and determine whether they are eligible for casting their own vote.**

*Example:*

* Enter your age => 16
* Output: Sorry, you are not eligible to vote.

**6. Find out whether the given number is positive or negative.**

*Example:*

* Enter no => 22
* Output: 22 is positive.
* Enter no => -3
* Output: -3 is negative.
* Enter no => 0
* Output: The number is 0.

**7. Find out whether the given number is odd, even, or 0.**

*Example:*

* Enter no => 22
* Output: 22 is even.
* Enter no => 23
* Output: 23 is odd.
* Enter no => 0
* Output: The number is 0.

**8. Enter marks for 3 subjects, print total, and if total > 50, then display "Pass", else display "Fail".**

*Example:*

* Enter marks of Hindi => 22
* Enter marks of English => 30
* Enter marks of SS => 35
* Output: Your total is 87. You are Pass.

**9. Enter marks for 3 subjects, print total, and display grades based on total:**

* 0-50: C grade
* 50-100: B grade
* 100: A grade *Example:*
* Enter marks of Hindi => 22
* Enter marks of English => 30
* Enter marks of SS => 35
* Output: Your total is 87. You got B grade.

**10. Write a Python program to find the largest of three numbers.**

*Example:*

* Enter no1 => 12
* Enter no2 => 25
* Enter no3 => 52
* Output: The 3rd number is the greatest among the three.

**11. Write a Python program to find whether a given year is a leap year or not.**

*Example:*

* Enter year => 2020
* Output: Year is a leap year.

**12. Write a Python program to input any alphabet and check whether it is a vowel or consonant.**

*Example:*

* Enter character => a
* Output: It's a vowel.

**13. Write a Python program to input a week number and print the corresponding weekday.**

*Example:*

* Enter week number => 2
* Output: Tuesday.

**14. Write a Python program that takes two values and a choice (1, 2, 3, or 4). If the user presses 1, display addition; 2 for subtraction; 3 for multiplication; 4 for division.**

*Example:*

* Enter no1 => 22
* Enter no2 => 2
* Enter 1 for Add, 2 for Sub, 3 for Mul, 4 for Div
* Enter => 2
* Output: 20.

**15. Write a Python program that takes two values and a choice (+, -, \*, /). If the user presses +, display addition; - for subtraction; \* for multiplication; / for division.**

*Example:*

* Enter no1 => 22
* Enter no2 => 2
* Enter + for Add, - for Sub, \* for Mul, / for Div
* Enter => -
* Output: 20.

**16. Write a program where the user enters the temperature and display a message according to the temperature:**

* Temp < 0: Freezing Atmosphere
* Temp 0 to 10: Very cold atmosphere
* Temp 10 to 20: Cold Atmosphere
* Temp 20 to 30: Normal Atmosphere
* Temp 30 to 40: Hot atmosphere
* Temp > 40: Very hot atmosphere

**17. Write a program to see if the entered letter is a vowel or a consonant.**

*Example:*

* Enter letter => a
* Output: a is a vowel;
* Enter letter => h
* Output: h is a consonant.

**18. Write a program to see if the entered letter is in upper case or lower case.**

*Example:*

* Enter letter => a
* Output: a is in lowercase;
* Enter letter => A
* Output: A is in uppercase.

**19. Write a program where a user enters the buying price and selling price, then the output should show if the person has made a profit or loss.**

*Example:*

* Buy = 400
* Sell = 600
* Output: The User has made a profit.

**20. Write a program where the user can enter any number between 1 to 9, and the output should be the written word of the number.**

*Example:*

* User enters 1
* Output: One;
* User enters 2
* Output: Two.

**21. Given two integer numbers, return their product only if the product is equal to or lower than 50; else, return their sum.**

*Example 1:*

* number1 = 20
* number2 = 30
* Output: The result is 600. *Example 2:*
* number1 = 40
* number2 = 3
* Output: The result is 43.

**22. Write a Python program to find the number of days in a month.**

*Example:*

* Input a month number: 2
* Input a year: 2016
* Output: February 2016 has 29 days.

**23. Accept any city from the user and display the monument of that city.**

| **City** | **Monument** |
| --- | --- |
| Surat | Dumas |
| Ahmedabad | Laldarvaja |
| Mumbai | Bombay Gate |

**24. Write a program to check whether a person is a senior citizen or not.**

**25. Accept the marked price from the user and calculate the net amount to pay according to the following criteria:**

| **Marked Price** | **Discount** |
| --- | --- |
| > 10,000 | 20% |
| > 7,000 and <= 10,000 | 15% |
| >= 7,000 | 10% |

**26. Accept the age, gender ('M', 'F'), number of days, and display the wages accordingly.**

| **Age** | **Gender** | **Wage/day** |
| --- | --- | --- |
| >= 18 and < 30 | M | 700 |
|  | F | 750 |
| >= 30 and <= 40 | M | 800 |
|  | F | 850 |

**27. A company decided to give a bonus of 5% to employees if their year of service is more than 5 years.**

**28. Ask for the name of the user, and if the length of it is less than 2, then display a message.**

**29. Take the values of length and breadth of a rectangle from the user and check if it is a square or not.**

*Hint:* If length and breadth are the same, it is a square.

**30. A student will not be allowed to sit in the exam if his/her attendance is less than 75%.**

Take the following input from the user:

* Number of classes held
* Number of classes attended *Print the percentage of classes attended*:
* Formula: (Number of classes attended / float(Number of classes held)) \* 100 *Output:* Is the student allowed to sit in the exam or not.

**31. Ask the user to enter age, gender (M or F), marital status (Y or N), and then using the following rules, print their place of service:**

* If the employee is female, she will work only in urban areas.
* If the employee is male and age is between 20 to 40, he may work anywhere.
* If the employee is male and age is between 40 to 60, he will work in urban areas only.
* Any other input of age should print "ERROR".

**32. Write a Python program that will check for the following conditions:**

* If the light is green: Car is allowed to go.
* If the light is yellow: Car has to wait.
* If the light is red: Car has to stop.
* Other signal: Unrecognized signal (e.g., black, blue, etc.).

**33. Given an integer, n, perform the following conditional actions:**

* If n is odd, print "Weird".
* If n is even and in the inclusive range of 2 to 5, print "Not Weird".
* If n is even and in the inclusive range of 6 to 20, print "Weird".
* If n is even and greater than 20, print "Not Weird".

**34. A toy vendor supplies three types of toys: Battery-Based Toys, Key-Based Toys, and Electrical Charging Based Toys.**

The vendor gives a discount of 10% on orders for battery-based toys if the order is for more than Rs. 1000. On orders of more than Rs. 100 for key-based toys, a discount of 5% is given, and a discount of 10% is given on orders for electrical charging-based toys of value more than Rs. 500. Assume that the numeric codes 1, 2, and 3 are used for battery-based toys, key-based toys, and electrical charging-based toys, respectively. Write a program that reads the product code and the order amount and prints out the net amount that the customer is required to pay after the discount.

**35. Write a python program that can tell you if your sugar is normal or not. Normal fasting level sugar range is 80 to 100.**

Ask user to enter his fasting sugar level

If it is below 80 to 100 range then print that sugar is low

If it is above 100 then print that it is high otherwise print that it is normal

**36. Write a Python program that evaluates a person's age to determine if they are a child, teenager, adult, or senior.**

Define a child as 0-12 years, a teenager as 13-19 years, an adult as 20-64 years, and a senior as 65 years and above. Ask the user to enter their age and print the corresponding category.

**37. Create a Python program that checks if a person's BMI (Body Mass Index) is underweight, normal weight, overweight, or obese. Use the following categories:** underweight (BMI < 18.5), normal (18.5 ≤ BMI < 24.9), overweight (25 ≤ BMI < 29.9), and obese (BMI ≥ 30). Ask the user to enter their BMI and print the corresponding category.