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Python Basic Interview Questions in one shot

Program 1

Write a Python program to print "Hello Python".

```
In [1]: print("Hello Python !")
```

```
Hello Python !
```

Program 2

Write a Python program to do arithmetical operations addition and division.

```
In [2]: # Addition
num1 = float(input("Enter the first number for addition: "))
num2 = float(input("Enter the second number for addition: "))
sum_result = num1 + num2
print(f"sum: {num1} + {num2} = {sum_result}")
```

```
Enter the first number for addition: 3
Enter the second number for addition: 5
sum: 3.0 + 5.0 = 8.0
```

```
In [3]: # Division
num3 = float(input("Enter the dividend for division: "))
num4 = float(input("Enter the divisor for division: "))
if num4==0:
    print("Error: Division by zero is not allowed.")
else:
    div_result = num3 / num4
    print(f"Division: {num3} / {num4} = {div_result}")
```

```
Enter the dividend for division: 6
Enter the divisor for division: 6
Division: 6.0 / 6.0 = 1.0
```

Program 3

Write a Python program to find the area of a triangle.

```
In [4]: # Input the base and height from the user
base = float(input("Enter the length of the base of the triangle: "))
height = float(input("Enter the height of the triangle: "))
# Calculate the area of the triangle
area = 0.5 * base * height
# Display the result
print(f"The area of the triangle is: {area}")
```

```
Enter the length of the base of the triangle: 6
Enter the height of the triangle: 6
The area of the triangle is: 18.0
```

Program 4

Write a Python program to generate a random number.

```
In [5]: import random
print("Random no is :",random.randint(1, 100))
```

```
Random no is : 56
```

Program 5

Write a Python program to swap two variables.

```
In [6]: # Input two variables
a = input("Enter the value of the first variable (a): ")
b = input("Enter the value of the second variable (b): ")
# Display the original values
print(f"Original values: a = {a}, b = {b}")
# Swap the values using a temporary variable
temp = a
a = b
b = temp
# Display the swapped values
print(f"Swapped values: a = {a}, b = {b}")
```

```
Enter the value of the first variable (a): 6
Enter the value of the second variable (b): 6
Original values: a = 6, b = 6
Swapped values: a = 6, b = 6
```

Program 6

Write a Python program to swap two variables without temp variable

```
In [7]: a = 5
b = 10
# Swapping without a temporary variable
a, b = b, a
print("After swapping:")
print("a =", a)
print("b =", b)
```

After swapping:

```
a = 10
b = 5
```

Program 7

Write a Python program to convert kilometers to miles.

```
In [8]: kilometers = float(input("Enter distance in kilometers: "))
# Conversion factor: 1 kilometer = 0.621371 miles
conversion_factor = 0.621371
miles = kilometers * conversion_factor
print(f"{kilometers} kilometers is equal to {miles} miles")
```

Enter distance in kilometers: 6

6.0 kilometers is equal to 3.7282260000000003 miles

Program 8

Write a Python program to convert Celsius to Fahrenheit.

```
In [9]: celsius = float(input("Enter temperature in Celsius: "))
# Conversion formula: Fahrenheit = (Celsius * 9/5) + 32
fahrenheit = (celsius * 9/5) + 32
print(f"{celsius} degrees Celsius is equal to {fahrenheit} degrees Fahr
```

Enter temperature in Celsius: 6

6.0 degrees Celsius is equal to 42.8 degrees Fahrenheit

Program 9

Write a Python program to display calendar.

```
In [10]: import calendar
```

```
year = int(input("Enter year: "))
month = int(input("Enter month: "))
cal = calendar.month(year, month)
print(cal)
```

```
Enter year: 6
Enter month: 6
    June 6
Mo Tu We Th Fr Sa Su
    1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30
```

Program 10

Write a Python Program to Check if a Number is Positive, Negative or Zero.

```
In [11]: num = float(input("Enter a number: "))
if num > 0:
    print("Positive number")
elif num == 0:
    print("Zero")
else:
    print("Negative number")
```

```
Enter a number: 6
Positive number
```

Program 11

Write a Python Program to Check if a Number is Odd or Even.

```
In [12]: num = int(input("Enter a number: "))
if num%2 == 0:
    print("This is a even number")
else:
    print("This is a odd number")
```

```
Enter a number: 6
This is a even number
```

Program 12

Write a Python Program to Check Leap Year.

```
In [13]: year = int(input("Enter a year : "))

if (year % 4 == 0 and (year % 100 != 0 or year % 400 == 0)):
    print(f"{year} is Leap Year .")
else:
    print(f"{year} is not Leap Year .")
```

Enter a year : 6
6 is not Leap Year .

Program 13

Write a Python Program to Display the multiplication Table

```
In [14]: num = int(input("Enter a number :"))
for i in range(0,11):
    print(f"{num} x {i} = {num*i}")
```

Enter a number :6
6 x 0 = 0
6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30
6 x 6 = 36
6 x 7 = 42
6 x 8 = 48
6 x 9 = 54
6 x 10 = 60

Program 14

Write a Python Program to Find the Factorial of a Number

```
In [15]: num = int(input("Enter a number: "))
fact = 1

if num < 0:
    print("Factorial does not exist for negative numbers")
elif num == 0:
    print("Factorial of 0 is 1")
else:
    for i in range(1, num + 1):
        fact *= i

    print(f"The factorial of {num} is: {fact}")
```

Enter a number: 6
The factorial of 6 is: 720

Program 15

Write a Python Program To Find ASCII value of a character. ASCII value: ASCII, or American Standard Code for Information Interchange, is a character encoding standard that uses numeric values to represent characters. Each ASCII character is assigned a unique 7-bit or 8-bit binary number, allowing computers to exchange information and display text in a consistent way. The ASCII values range from 0 to 127 (for 7-bit ASCII) or 0 to 255 (for 8-bit ASCII), with each value corresponding to a specific character, such as letters, digits, punctuation marks, and control characters.

```
In [16]: char = input("Enter a character to find ASCII: ")

if len(char) == 1:
    print("The ASCII value of '" + char + "' is", ord(char))
else:
    print("Please enter only a single character.")
```

```
Enter a character to find ASCII: 6
The ASCII value of '6' is 54
```

Program 16

Write a Python Program to Make a Simple Calculator with 4 basic mathematical operations.

```
In [17]: def add(num1, num2):
    return num1 + num2

def subs(num1, num2):
    return num1 - num2

def mult(num1, num2):
    return num1 * num2

def div(num1, num2):
    if num2 != 0:
        return num1 / num2
    else:
        return "Cannot divide by zero"

num1 = int(input("Enter num1: "))
num2 = int(input("Enter num2: "))

print("Select operation.")
print("1. Add")
print("2. Subtract")
print("3. Multiply")
print("4. Divide")

while True:
    choice = input("Enter choice (1, 2, 3, 4): ")

    if choice in ('1', '2', '3', '4'):
        if choice == '1':
            print(num1, "+", num2, "=", add(num1, num2))
        elif choice == '2':
            print(num1, "-", num2, "=", subs(num1, num2))
        elif choice == '3':
            print(num1, "*", num2, "=", mult(num1, num2))
        else:
            result = div(num1, num2)
            if isinstance(result, str):
                print(result)
            else:
                print(num1, "/", num2, "=", result)

    next_calculation = input("Do you want to perform another calculation? ")
    if next_calculation.lower() == "no":
        break
    else:
        print("Invalid Input. Please enter a valid choice (1, 2, 3, 4).")
```

```
Enter num1: 6
Enter num2: 6
Select operation.
1. Add
2. Subtract
3. Multiply
4. Divide
Enter choice (1, 2, 3, 4): 6
Invalid Input. Please enter a valid choice (1, 2, 3, 4).
Enter choice (1, 2, 3, 4): 6
Invalid Input. Please enter a valid choice (1, 2, 3, 4).
Enter choice (1, 2, 3, 4): 6
Invalid Input. Please enter a valid choice (1, 2, 3, 4).
Enter choice (1, 2, 3, 4): 6
Invalid Input. Please enter a valid choice (1, 2, 3, 4).
Enter choice (1, 2, 3, 4): 6
Invalid Input. Please enter a valid choice (1, 2, 3, 4).
Enter choice (1, 2, 3, 4): 1
6 + 6 = 12
Do you want to perform another calculation? (yes/no): no
```

Program 17

Find max in 3 nos

```
In [18]: num1=int(input("Enter num1 :"))
num2=int(input("Enter num2 :"))
num3=int(input("Enter num3 :"))
if num1>num2 and num1>num3:
    print(f"max is {num1}")
elif num2>num1 and num2>num3:
    print(f"max is {num2}")
else:
    print(f"max is {num3}")
```

```
Enter num1 :4
Enter num2 :5
Enter num3 :4
max is 5
```

Program 18

Find min in 3 nos

```
In [19]: num1=int(input("Enter num1 :"))
num2=int(input("Enter num2 :"))
num3=int(input("Enter num3 :"))
if num1<num2 and num1<num3:
    print(f"min is {num1}")
elif num2<num1 and num2<num3:
    print(f"min is {num2}")
else:
    print(f"min is {num3}")
```

Enter num1 :4
 Enter num2 :4
 Enter num3 :4
 min is 4

Program 19

middle in 3 nos

```
In [20]: num1=int(input("Enter num1 :"))
num2=int(input("Enter num2 :"))
num3=int(input("Enter num3 :"))
if (num1>num2 and num1 < num3) or (num1>num3 and num2<num2):
    print(f"mid is {num1}")
elif (num2>num1 and num2<num3) or (num2>num3 and num2<num1):
    print(f"mid is {num2}")
else:
    print(f"mid is {num3}")
```

Enter num1 :4
 Enter num2 :4
 Enter num3 :4
 mid is 4

Program 20

print n natural no

```
In [21]: num= int(input("Enter a no"))

for i in range(num+1):
    print(i)
```

Enter a no4
 0
 1
 2
 3
 4

Program 21

print n natural no in reverse order

```
In [22]: num= int(input("Enter a no"))

for i in range(num,0,-1):
    print(i)
```

Enter a no4

4

3

2

1

Program 22

sum of first N natural no

```
In [23]: num= int(input("Enter a no"))
sum=0
for i in range(num+1):
    sum=sum+i
print(sum)
```

Enter a no4

10

Program 23

sum of square of first N natural no

```
In [24]: num= int(input("Enter a no"))
sum=0
for i in range(num+1):
    sum=sum+i*i
print(sum)
```

Enter a no4

30

Program 24

sum of cube of first N natural no

```
In [25]: num= int(input("Enter a no"))
sum=0
for i in range(num+1):
    sum=sum+i*i*i
print(sum)
```

Enter a no4
100

Program 25

Even no from 1 to n

```
In [26]: num= int(input("Enter a no"))

for i in range(num+1):
    if i%2==0:
        print(i)
```

Enter a no4
0
2
4

Program 26

Odd no from 1 to n

```
In [27]: num= int(input("Enter a no"))

for i in range(num+1):
    if i%2!=0:
        print(i)
```

Enter a no4
1
3

Program 27

Sum of Even no from 1 to n

```
In [28]: num= int(input("Enter a no"))
sum=0
for i in range(num+1):
    if i%2==0:
        sum+=i
print(sum)
```

Enter a no
4
6

Program 28

Sum of first n Even no from 1 to n

```
In [29]: num = int(input("Enter a range : "))
count = 0
sum=0
i=1
while(count<num):
    if i%2==0:
        print(i)
        sum = sum+i
        count = count + 1
    i+=1

print("-----")
print("sum is ",sum)
```

Enter a range : 4
2
4
6
8

sum is 20

Program 29

sum of digits of a no

```
In [30]: num = int(input("Enter a no :"))

sum=0
while(num>0):
    sum=sum+num%10
    num=num//10

print(sum)
```

Enter a no :4
4

Program 30

sum of square of digits of a no

```
In [31]: n = int(input("Enter a no :"))

sum=0
while(n>0):
    sum=sum+(n%10)*(n%10)
    n=n//10
print(sum)
```

Enter a no :4

16

Program 31

sum of cube of digits of a no

```
In [32]: n = int(input("Enter a no :"))

sum=0
while(n>0):
    sum=sum+(n%10)*(n%10)*(n%10)
    n=n//10
print(sum)
```

Enter a no :4

64

Program 32

Check a no is armstrong or not (3Digit)

```
In [33]: n = int(input("Enter a no :"))

x=n

sum=0
while(n>0):
    sum=sum+(n%10)*(n%10)*(n%10)
    n=n//10

if x==sum:
    print("Armstrong no 🎉")
else:
    print("Not Armstrong No 🎈")
```

Enter a no :4
Not Armstrong No 🎈

Program 33

Check a no is armstrong or not

```
In [38]: def is_armstrong(num):
    # Calculate the number of digits
    num_str = str(num)
    num_digits = len(num_str)

    # Initialize armstrong_sum
    armstrong_sum = 0

    # Calculate the sum of the digits raised to the power of the number
    for digit in num_str:
        armstrong_sum += int(digit) ** num_digits

    # Check if the sum is equal to the original number
    return armstrong_sum == num

# Test the function
number = int(input("Enter a number: "))
if is_armstrong(number):
    print(number, "is an Armstrong number")
else:
    print(number, "is not an Armstrong number")
```

Enter a number: 5
5 is an Armstrong number

Program 34

Product of digit of a no

```
In [39]: num = int(input("Enter a no :"))
prod=1

while(num>0):
    prod=prod*(num%10)
    num=num//10
print(prod)
```

Enter a no :456
120

Program 35

Reverse a no

```
In [40]: num = int(input("Enter a no :"))
rev = 0
while num>0:
    rev=rev*10+num%10
    num=num//10
print(rev)
```

Enter a no :456
654

Program 36

Palindrome or not

```
In [42]: num = int(input("Enter a no "))
x = num
rev =0
while(num>0):
    rev = rev*10+num%10
    num=num//10
if rev==x:
    print("palindrome no :")
else:
    print("Not Palindrome")
```

Enter a no 6
palindrome no :

Program 37

prime no or not

```
In [43]: num = int(input("Enter a no "))
count=0

for i in range(1,num+1):
    if num%i==0:
        count+=1

if count==2:
    print("Prime no ")
else:
    print("Not Prime no ")
```

Enter a no 88
Not Prime no

Program 38

perfect no or not

```
In [44]: n=int(input("Enter a no :"))

sum=0
for i in range(1,n):
    if (n%i==0):
        sum=sum+i
if sum==n:
    print("Perfect")
else:
    print("Not perfect :")
```

Enter a no :77
Not perfect :

Program 39

Fibonacci no

```
In [45]: n=int(input("Enter a no :"))
x=0
y=1
z=0
while(z<=n):
    print(z)
    x=y
    y=z
    z=x+y
```

```
Enter a no :8
0
1
1
2
3
5
8
```

program 40

GCD

```
In [46]: def gcd(a, b):
    while b:
        a, b = b, a % b
    return a

# Example usage:
num1 = int(input("enter num1 "))
num2 = int(input("enter num2 "))

result = gcd(num1, num2)
print(f"The GCD of {num1} and {num2} is: {result}")
```

```
enter num1 7
enter num2 8
The GCD of 7 and 8 is: 1
```

Program 41

Write a Python Program to Find Factorial of Number Using Recursion.

$$n! = n \times (n - 1) \times (n - 2) \times \dots \times 3 \times 2 \times 1$$

```
In [47]: def factorial(num):
    if num<0:
        print("-ve no not allowed ")
    elif num ==1:
        return 1
    else:
        return num * factorial(num-1)
factorial(-4)
```

-ve no not allowed

Program 42

Write a Python Program to calculate the natural logarithm of any number.

```
In [48]: import math

num = float(input("Enter a no "))
if num <= 0:

    print("Please enter a positive number.")
else:
    result = math.log(num)
    print(f"The natural logarithm of {num} is: {result}")
```

Enter a no 89

The natural logarithm of 89.0 is: 4.48863636973214

Program 43

Write a Python Program to Find fibonacci no Number Using Recursion.

```
In [49]: def fibinacci(no):
    if no<=1:
        return no
    else:
        return fibinacci(no-1) + fibinacci(no-2)
result=fibinacci(11)
result
```

Out[49]: 89