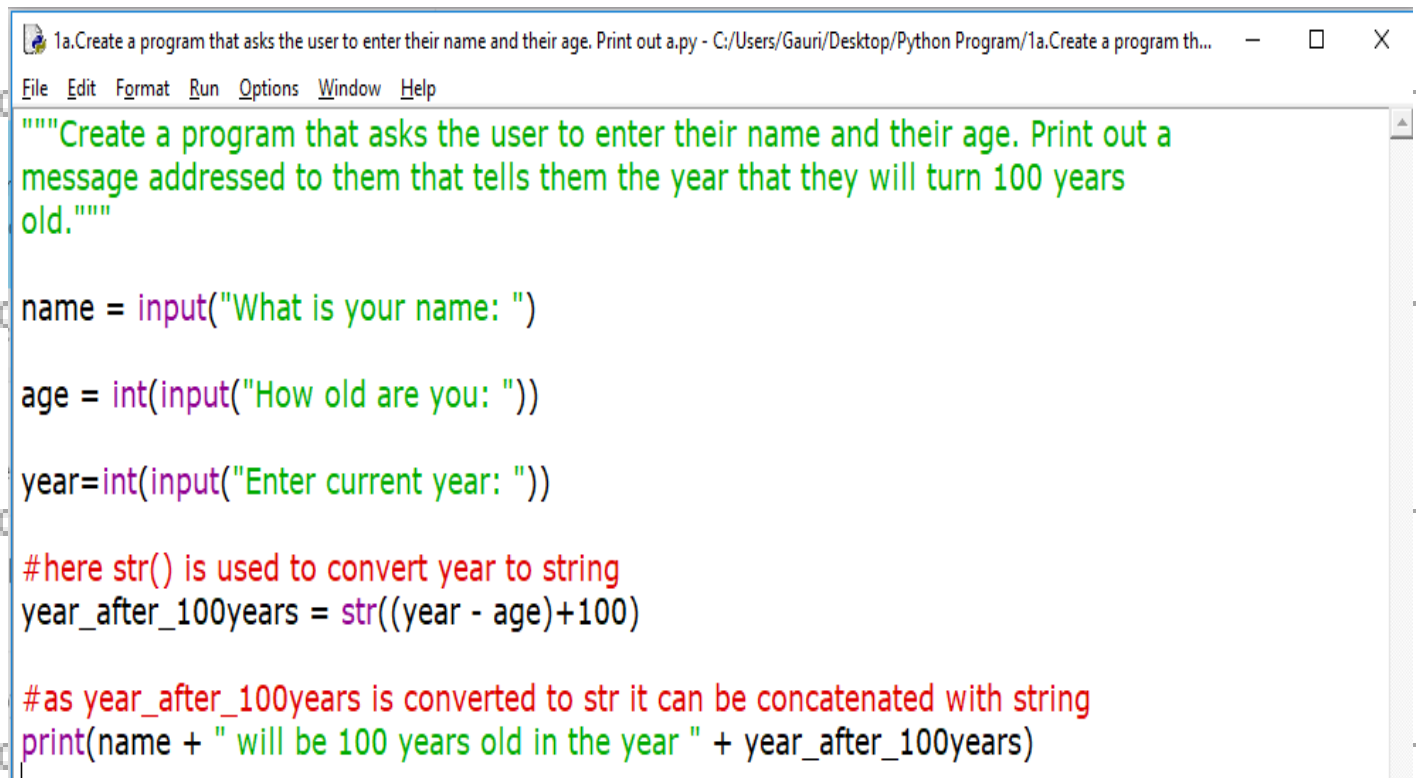


Python Programming Practical

Practical 1

- **Create a program that asks the user to enter their name and their age. Print out a message addressed to them that tells them the year that they will turn 100 years old.**



```
1a.Create a program that asks the user to enter their name and their age. Print out a.py - C:/Users/Gauri/Desktop/Python Program/1a.Create a program th...
File Edit Format Run Options Window Help
"""Create a program that asks the user to enter their name and their age. Print out a
message addressed to them that tells them the year that they will turn 100 years
old."""

name = input("What is your name: ")

age = int(input("How old are you: "))

year=int(input("Enter current year: "))

#here str() is used to convert year to string
year_after_100years = str((year - age)+100)

#as year_after_100years is converted to str it can be concatenated with string
print(name + " will be 100 years old in the year " + year_after_100years)
```

OUTPUT

```
>>>
What is your name: itvoyagers
How old are you: 1
Enter current year: 2019
itvoyagers will be 100 years old in the year 2118
```

- **Enter the number from the user and depending on whether the number is even or odd, print out an appropriate message to the user.**

```
1b.Enter the number from the user and depending on whether the number is even or.py - C:/Users/Gauri/Downloads/1b.Enter the number from the user a...
File Edit Format Run Options Window Help
"""Enter the number from the user and depending on whether the number is even or
odd, print out an appropriate message to the user."""
val = int(input("Enter a number: "))
if (val % 2) == 0:
    print(val, " is Even")
else:
    print(val, " is Odd")
```

OUTPUT

```
>>>
Enter a number: 6
6 is Even
>>> =====
>>>
Enter a number: 5
5 is Odd
>>> |
```

- **Write a program to generate the Fibonacci series.**

```
1.c.Write a program to generate the Fibonacci series..py - C:/Users/Gauri/Downloads/1.c.Write a program to generate the Fibonacci series..py (3.4.3)
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# Program to display the Fibonacci series up to n-th term where n is provided by the user

# change this value for a different result
#nterms = 10
#nterms are taken from user to make program dynamic
nterms = int(input("How many terms? "))
# first two terms
n1 = 0
n2 = 1
#counter is initialized
count = 2

# check if the number of terms is valid
if nterms <= 0:
    print("Please enter a positive integer")
elif nterms == 1:
    print("Fibonacci series upto",nterms,":")
    print(n1)
else:
    print("Fibonacci series upto",nterms,":")
    print(n1, ", ", n2, end= ', ')
    while count < nterms:
        nth = n1 + n2
        print(nth, end= ', ')
        # update values
        n1 = n2
        n2 = nth
        #increment counter
        count += 1
```

OUTPUT

How many terms? 20

Fibonacci series upto 20 :

0 , 1, 1 , 2 , 3 , 5 , 8 , 13 , 21 , 34 , 55 , 89 , 144 , 233 , 377 , 610 , 987 , 1597 , 2584 , 4181 ,

>>>|

- **Write a function that reverses the user defined value.**

1.d.Write a function that reverses the user defined value..py - C:/Users/Gauri/Downloads/1.d.Write a function that reverses the user defined value..py (3.4.3)

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```
#Write a function that reverses the user defined value.
def reverse(Number):
    Reverse = 0
    while(Number > 0):
        Reminder = Number %10
        Reverse = (Reverse *10) + Reminder
        Number = Number //10
    print("\n Reverse of entered number is = " , Reverse)
```

OUTPUT

```
>>> reverse(340)
Reverse of entered number is =  43
>>> reverse(512)
Reverse of entered number is =  215
```

- **Python Program to Reverse a Number using While loop(without function definition)**

```
# Python Program to Reverse a Number using While loop
Number = int(input("Please Enter any Number: "))
Reverse = 0
while(Number > 0):
    Reminder = Number %10
    Reverse = (Reverse *10) + Reminder
    Number = Number //10
print("\n Reverse of entered number is = %d" %Reverse)
```

OUTPUT

```
Please Enter any Number: 143
Reverse of entered number is = 341
>>> =====
>>> |
Please Enter any Number: 140
Reverse of entered number is = 41
>>>
```

- **Write a function to check the input value is Armstrong and also write the function for Palindrome.**

*1.e.Write a function to check the input value is Armstrong and also write the.py - C:/Users/Gauri/Downloads/1.e.Write a function to check the input value ...

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#Write a function to check the input value is Armstrong and also write the function for Palindrome.

```
class palin_arm:
    def palindrome():
        num=int(input("Enter a number to check if palindrome or not:\n"))
        sum1=0
        n=num
        while num!=0:
            rem=num%10
            sum1=(sum1*10)+rem
            num=num//10
        if sum1==n:
            print (n, "is palindrome")
        else:
            print (n, "is not palindrome")
    def armstrong():
        no = int(input("Enter a number to check if armstrong or not:\n "))
        t=len(str(no))
        sum = 0
        temp = no
        while temp > 0:
            digit = temp % 10
            sum += digit ** t
            temp //= 10
        if no == sum:
            print(no,"is an Armstrong number")
        else:
            print(no,"is not an Armstrong number")
p=palin_arm
print("1.palindrome\n2.armstrong\n")
choice=int(input("enter your choice\n"))
while choice != 4:
    if choice is 1:
        p.palindrome()
    elif choice is 2:
        p.armstrong()
    else:
        print("enter valid choice")
    choice=int(input("enter your choice\n"))
```

OUTPUT

```
1.palindrome
2.armstrong

enter your choice
2
Enter a number to check if armstrong or not:
1634
1634 is an Armstrong number
enter your choice
1
Enter a number to check if palindrome or not:
252
252 is palindrome
enter your choice
```

- **Python program to check if the number provided by the user is Palindrome number or not**

1.e1.Python program to check if the number provided by the user is an Palindrome number or not.py - C:\Users\Gauri\Down...

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```
#Python program to check if the number provided by the user is an Palindrome number or not
```

```
num=int(input("Enter a number"))
```

```
sum1=0
```

```
n=num
```

```
while num!=0:
```

```
    rem=num%10
```

```
    sum1=sum1*10+rem
```

```
    num=num//10
```

```
if sum1==n:
```

```
    print (n, "is palindrome")
```

```
else:
```

```
    print (n, "is not palindrome")
```

OUTPUT

```
>>>
```

```
Enter a number512
```

```
512 is not palindrome
```

```
>>> =====
```

```
=====
```

```
>>>
```

```
Enter a number252
```

```
252 is palindrome
```

- **Python program to check if the number provided by the user is**

Armstrong number or not

```
1.e2.Python program to check if the number provided by the user is Armstrong number or not.py - C:\Users\Gauri\Downloa...
File Edit Format Run Options Window Help
# Python program to check if the number provided by the user is an Armstrong number or not

# take input from the user
num = int(input("Enter a three digit number: "))
t=len(str(num))
# initialize sum
sum = 0

# find the sum of the cube of each digit
temp = num
while temp > 0:
    digit = temp % 10
    sum += digit ** t
    temp //= 10

# display the result
if num == sum:
    print(num,"is an Armstrong number")
else:
    print(num,"is not an Armstrong number")
```

OUTPUT

```
>>>
Enter a three digit number: 371
371 is an Armstrong number
>>> =====
=====
>>>
Enter a three digit number: 1634
1634 is an Armstrong number
```

- **Write a recursive function to print the factorial for a given number.**

1.f.Write a recursive function to print the factorial for a given number..py - C:/Users/Gauri/Downloads/1.f.Write a recursive function to print the factorial fo...

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```
# Python program to find the factorial of a number using recursion

def recursive_factorial(f):
    """Function to return the factorial
    of a number using recursion"""
    if f == 1:
        return f
    else:
        return f * recursive_factorial(f-1) #here function is called within itself

# Change this value for a different result
# num = 7

# uncomment to take input from the user
num = int(input("Enter a number: "))

# check if the number is negative
if num < 0:
    print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
    print("The factorial of 0 is 1")
else:
    print("The factorial of",num,"is",recursive_factorial(num))
```

OUTPUT

```
>>>
Enter a number: 5
The factorial of 5 is 120
```