Class: VIII	Department : Computer Science	Year :2021-2022
Worksheet	Topic: Python Programming	

INDIAN SCHOOL AL WADI AL KABIR

Python programs for post midterm

1. Program to display the Fibonacci sequence up to n-th term

nterms = int(input("How many terms? "))

first two terms

n1, n2 = 0, 1

count = 0

check if the number of terms is valid

if nterms <= 0:

  print("Please enter a positive integer")

if there is only one term, return n1

elif nterms == 1:

  print("Fibonacci sequence upto",nterms,":")

  print(n1)

generate fibonacci sequence

else:

  print("Fibonacci sequence:")

  while count < nterms:

    print(n1)

    nth = n1 + n2

    # update values

    n1 = n2

    n2 = nth

    count += 1

2. Python program to check if the input number is odd or even.

```python
# A number is even if division by 2 gives a remainder of 0.

# If the remainder is 1, it is an odd number.

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

if (num % 2) == 0:

  print("{0} is Even".format(num))

else:

  print("{0} is Odd".format(num))
```

3. Python program to find the largest number among the three input numbers

```python
# change the values of num1, num2 and num3

# for a different result

num1 = 10

num2 = 14

num3 = 12

# uncomment following lines to take three numbers from user

#num1 = float(input("Enter first number: "))

#num2 = float(input("Enter second number: "))

#num3 = float(input("Enter third number: "))

if (num1 >= num2) and (num1 >= num3):

  largest = num1

elif (num2 >= num1) and (num2 >= num3):

  largest = num2

else:

  largest = num3
```

4. Python program to check if year is a leap year or not

```python
year = 2000

# To get year (integer input) from the user

# year = int(input("Enter a year: "))
```

```python
if (year % 4) == 0:

    if (year % 100) == 0:

        if (year % 400) == 0:

            print("{0} is a leap year".format(year))

        else:

            print("{0} is not a leap year".format(year))

    else:

        print("{0} is a leap year".format(year))

else:

    print("{0} is not a leap year".format(year))
```

5. Multiplication table (from 1 to 10) in Python

```python
num = 12

# To take input from the user

# num = int(input("Display multiplication table of? "))

# Iterate 10 times from i = 1 to 10

for i in range(1, 11):

    print(num, 'x', i, '=', num*i)
```

6. Python program to find the factorial of a number provided by the user.

```python
# change the value for a different result

num = 7

# To take input from the user

#num = int(input("Enter a number: "))

factorial = 1

# check if the number is negative, positive or zero

if num < 0:

    print("Sorry, factorial does not exist for negative numbers")

elif num == 0:

    print("The factorial of 0 is 1")
```

```python
    else:

        for i in range(1,num + 1):

            factorial = factorial*i

        print("The factorial of",num,"is",factorial)
```

7. Python program to display all the prime numbers within an interval

```python
print("Prime numbers between", lower, "and", upper, "are:")

for num in range(lower, upper + 1):

    # all prime numbers are greater than 1

    if num > 1:

        for i in range(2, num):

            if (num % i) == 0:

                break

        else:

            print(num)
```

8. Python program to check if the number is an Armstrong number or not

```python
# take input from the user

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

# initialize sum

sum = 0

# find the sum of the cube of each digit

temp = num

while temp > 0:

    digit = temp % 10

    sum += digit ** 3

    temp //= 10

# display the result

if num == sum:

    print(num,"is an Armstrong number")
```

else:

   print(num,"is not an Armstrong number")

9. Program to find given number is a palindrome or not

n=int(input("Enter number:"))

temp=n

rev=0

while(n>0):

   dig=n%10

   rev=rev*10+dig

   n=n//10

if(temp==rev):

   print("The number is a palindrome!")

else:

   print("The number isn't a palindrome!")

10. Program to find given string is a palindrome or not

string=input(("Enter a string:"))

if(string==string[::-1]):

    print("The string is a palindrome")

else:

   print("Not a palindrome")