INDIAN SCHOOL AL WADI AL KABIR

ARTIFICIAL INTELLIGENCE

Class 9: 2024-25

PROGRAMS

SR.NO.	ASSIGNMENT
1	Write a Python program to print personal information like Name, Father Name, Class, School Name
2	Write a Python program to print the following pattern using multiple print command. 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5
3	Write a Python program to read todays date (only date Part) from user. Then display how many days are left in the current month.
4	Write a Python program to calculate the simple interest if principle amount=2000, rate of interest=4.5, Time period is 10 years.
5	Write a Python program to print the volume of a cylinder when radius and height of the cylinder is given by user.
6	Write a Python program to find the greatest of 3 numbers using logical operator.
7	Write a Python program to calculate the average marks of 3 subjects.
8	Write a Python program to compute the result when two numbers and one operator is given by user. (if…elif…else)
9	Write a Python program to check the given year is leap year or not. (nested if)
10	Write a Python program to test if given number is prime or not.
11	Write a program to reverse entered number using while loop.
12	Write a program to check entered number is Palindrome or not.
13	Write a program to check entered number is Armstrong or not.
14	Write a program to print a multiplication table of entered number

15	Write a program to find sum of first N numbers
16	Write a program to convert integer datatype to float datatype
17	Write a program to create a list in Python of children selected for science quiz with following names- Arjun, Sonakshi, Vikram, Sandhya, Sonal, Isha, Kartik Perform the following tasks on the list in sequence- • Print the whole list • Delete the name "Vikram" from the list • Add the name "Jay" at the end • Remove the item which is at the second position. Create a list num= [23,12,5,9,65,44] • Print the length of the list • Print the elements from second to fourth position using positive indexing • Print the elements from position third to fifth using negative indexing Create a list of first 10 even numbers, add 1 to each list item and print the final list. Create a list List_1= [10,20,30,40]. Add the elements [14,15,12] using extend function. Now sort the final list in ascending order and print it.

PYTHON PROGRAMS

Assignment 1
Write a Python program to print personal information like Name, Father Name, Class, School Name.

```python
print("Aarav")
print("Amit Sharma")
print("class X-B")
print("ISWK")
```

Assignment 2
Write a Python program to print the following pattern using multiple print command.

```
1

1 2

1 2 3

1 2 3 4

1 2 3 4 5
```

```python
rows = 5
for i in range(1, rows + 1):
    for j in range(1, i + 1):
        print(j, end=' ')
    print('')
```

Assignment 3
Write a Python program to read todays date (only date Part) from user. Then display how many days are left in the current month.

CODE:

```python
import datetime
td=0
now=datetime.datetime.now()
print(now.day)
if now.month==2:
    td=28
elif now.month in(1,3,5,7,8,10,12):
    td=31
else:
    td=30
print("Total remaining days in the current month are : ", td-now.day)
```

Assignment 4
Write a Python program to calculate the simple interest if principle amount=2000, rate of interest=4.5, Time period is 10 years.

```python
p=2000
r=4.5
t=10
si=p*t*r/100
print(si)
```

Assignment 5
Write a Python program to print the volume of a cylinder when radius and height of the cylinder is given by user.

```python
r=int(input("enter the radius"))
h=int(input("enter the height"))
vol=3.14*r*r*h
print("volume of cylinder is",vol)
```

Assignment 6
Write a Python program to find the greatest of 3 numbers using logical operator.

```python
a = 10
b = 10
c = -10
if a > 0 and b > 0:
    print("The numbers are greater than 0")
if a > 0 and b > 0 and c > 0:
    print("The numbers are greater than 0")
else:
    print("Atleast one number is not greater than 0")
```

Assignment 7
Write a Python program to calculate the average marks of 3 subjects.

```python
a = int(input("Enter the marks of first subject: "))
b = int(input("Enter the marks of second subject: "))
c = int(input("Enter the marks of third subject: "))
total = a+b+c
avg = total/3
print("Total marks: ",total)
print("Average marks: ",avg)
```

Assignment 8

Write a Python program to compute the result when two numbers and one operator is given by user. (if…elif…else)

```python
a=int(input("Enter 1st number : "))
b=int(input("Enter 2nd number : "))
c=input("Enter the Operator +,-,*,/ : ")
if c=='+':
    print("The Result is : ",a+b)
elif c=='-':
    print("The Result is : ",a-b)
elif c=='*':
    print("The Result is : ",a*b)
elif c=='/':
    print("The Result is : ",a/b)
else:
    print("Wrong Operator Entered")
```

Assignment 9

Write a Python program to check the given year is leap year or not. (nested if)

```python
if year%4==0:
    if year%100==0:
        if year%400==0:
            print("the entered year is leap year")
        else:
            print("the entered year is not a leap year")
    else:
        print("the entered year is leap year")
else:
    print("the entered year is not a leap year")
```

Assignment 10

Write a Python program to test if given number is prime or not.

```python
a=int(input("enter a number"))
k=0
for i in range(2,a//2+1):
    if(a%i==0):
        k=k+1
if(k<=0):
    print("Number is Prime")
else:
    print("Number is not prime")
```

Assignment 11

Write a program to reverse entered number using while loop.

```python
num = 1234
reversed_num = 0
while num != 0:
    digit = num % 10
    reversed_num = reversed_num * 10 + digit
    num //= 10
print("Reversed Number: " + str(reversed num))
```

Assignment 12

Write a program to check entered number is Palindrome or not.

```python
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!")
```

Assignment 13

Write a program to check entered number is Armstrong or not.

```python
# Python program to check if the number is an Armstrong number or not
# 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")
```

Assignment 14
Write a program to print a multiplication table of entered number

```python
# Multiplication table (from 1 to 10) in Python
# 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)
```

Assignment 15
Write a program to find sum of first N numbers

```python
# Sum of natural numbers up to N
num = 16
if num < 0:
    print("Enter a positive number")
else:
    sum = 0
    # use while loop to iterate until zero
    while(num > 0):
        sum += num
        num -= 1
    print("The sum is", sum)
```

Assignment 16
Write a program to convert string datatype to integer datatype and float datatype

```python
# initializing string
s = "10010"

# printing string converting to int base 2
c = int(s)
print ("After converting to integer : ", end="")
print (c)

# printing string converting to float
e = float(s)
print ("After converting to float : ", end="")
print (e)
```

Assignment 17

Write a program to create a list in Python of children selected for science quiz

```python
print("My name is        ")
print("My father's name is       ")
print("Iam studying in       ")
print("The school I am studying is       ")


stud_names=['arjun','sonakshi','vikram','sandhya','sonal','isha','kartik']
print("The list created is:")
print(stud_names,"\n")
stud_names.remove('vikram')
print("The list after removing vikram is:")
print(stud_names,"\n")
stud_names.append('jay')
print("The list after adding jay at the end is:")
print(stud_names,"\n")
stud_names.pop(1)
print("The list after removing the item in second position is:")
print(stud_names,"\n")


num=[23,12,5,9,65,44]
L=len(num)
print(L)
print("the 2nd to 4th position values using positive indexing")
i=1
while i<=3:
    print(num[i])
    i+=1     #this representation is similar to i=i+1
print(num[1:4])
print("the 3rd to 5th position values using negative indexing")
i=-4
while i<=-2:
    print(num[i])
    i+=1

print(num[-4:-1])
```

```python
num=[23,12,5,9,65,44]
L=len(num)
print(L)
print("the 2nd to 4th position values using positive indexing")
i=1
while i<=3:
    print(num[i])
    i+=1    #this representation is similar to i=i+1
print(num[1:4])
print("the 3rd to 5th position values using negative indexing")
i=-4
while i<=-2:
    print(num[i])
    i+=1

print(num[-4:-1])
```