

First Program

Week 1 - Assignment

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PRG 330: Python Programming with Data

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```
In [16]: hello = "hello world"
         print(hello)
```

hello world

Python Numbers Examples of different types of numbers that can be used in python

```
In [1]: age = 30
        real_imaginary = 1j
        pi = 3.14
        print(pi)
        print(real_imaginary)
        print(age)
        print (type(pi))
```

3.14

1j

30

<class 'float'>

Arithmetic Operations Different arithmetic operation examples are mentioned below:

```
In [2]: import math
        a = 1
        b = 2
        sum = a + b
        subtraction = a - b
        modular = a % b
        divide_with_floor = a // b
        divide = a / b
        print(sum)
        print(subtraction)
        print(modular)
        print(divide_with_floor)
        print(math.ceil(divide))
        print(math.floor(divide))
```

```

3
-1
1
0
1
0

```

String in Python

I have mentioned some of the ways where string can be printed. I'm using f-string feature to print different sentences as it allows use to format selected parts of strings. Placeholders is added to format values in f-string. Placeholders is represented by {}. As we can see, I have used index feature too that is represented by []. This feature is used to print specific charcaters in python.

```

In [3]: name = "Sony Gubhaju"
        city = "Bhaktapur"
        print(f"My name is {name}")
        print(f"There are {(len(name))} characters in my name.")
        print(f"I live in {city}")
        print(name[0])
        print(name[-1])
        print(name[: 3])

```

```

My name is Sony Gubhaju
There are 12 characters in my name.
I live in Bhaktapur
S
u
Son

```

One string that is divided into different substrings.

```

In [6]: name = "Regisha Manandhar"
        first_name = name[ : 7]
        last_name = name[8 : ]
        print(first_name, last_name)

```

```

Regisha Manandhar

```

Boolean

Boolean can only store two values. It can be either true or false. The values can also be anything else that evaluate to one of those values. The boolean values are given below:

```

In [ ]: passed = True
        gave_exam = False

```

Conditional statement

The code below is to find if any given number is even or odd. As we can see, I have used modular operation which helps to find the remainder of the given number that is divided by

%2. From the result, it is odd because the given number was 5 and it was divided by 2 and the remainder was 1. That's why it is odd.

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

Number is odd

```
In [18]: day = int (input ('Enter day'))
if day == 4:
    print("I have to wake up at 5am")
    print("I have to go to office")
    print("Its Wednesday")
elif day == 5:
    print("Its holiday")
print('test')
```

I have to wake up at 5am

I have to go to office

Its Wednesday

test

Time for Python

The given time was 10. The python class time is between 10 to 12. That's why the result is Python class.

```
In [13]: time = 10
if time >=10 and time <12:
    print("Python class")
elif time >=12 and time<14:
    print("DSA Class")
elif time >=14 and time<16:
    print("english")
```

Python class

```
In [21]: country = "Nepal"
if country == "Nepal" or country=="India":
    print("Ticket for cablecar is Rs.50")
else:
    print("Ticket for cablecar is RS.10")
```

Ticket for cablecar is Rs.50

```
In [22]: country = input ("Enter your country")
if country.lower() == "nepal" or country.lower()=="india":
    print("Ticket for cablecar is Rs.50")
else:
    print("Ticket for cablecar is RS.100")
```

Ticket for cablecar is Rs.50

while loop

```
In [23]: from time import sleep
         counter = 0
         while counter<10:
             print("Hello")
             print(counter)
             counter +=1
             sleep(1)
```

Hello
0
Hello
1
Hello
2
Hello
3
Hello
4
Hello
5
Hello
6
Hello
7
Hello
8
Hello
9

```
In [28]: from time import sleep
         counter = 10
         while counter>0:
             print("Hello " + str(counter))
             counter -=1
             sleep(1)
```

Hello 10
Hello 9
Hello 8
Hello 7
Hello 6
Hello 5
Hello 4
Hello 3
Hello 2
Hello 1

Finding sum of first n even numbers

```
In [33]: n=100
         counter = 1
```

```
sum = 0
while counter<=n :
    sum += counter
    counter+=1
print(sum)
```

5050

```
In [35]: n=100
counter = 1
sum = 0
while counter<=n :
    if counter%2 == 0:
        sum += counter
    counter+=1
print(sum)
```

2550

Reverse the string

```
In [37]: address = "Kathmandu Nepal"
length =len(address)-1
reversed_string = ''
while length>=0:
    reversed_string += address[length]
    length-=1
print(reversed_string)
```

lapen udnamhtak

```
In [1]: numbers = [1,2,3,4,5,5,5]
students = ['Ram', 'Hari']

#access elements from list
first_number = numbers[0]
print(first_number)
# count total number of items
total_items = len(numbers)
print(total_items)
# last element
last_element = numbers[total_items-1]
print(last_element)
```

1

7

5

```
In [3]: numbers = [1,4,3,5,6,7,1,1]
print(numbers)
# append item
numbers.append(8)
print(numbers)
#remove last item
numbers.pop()
print(numbers)
# remove
```

```

numbers.remove(5)
print(numbers)
# insert
numbers.insert(2,10)
# count
print(numbers.count(1))

numbers_1 = [1,2]
numbers_2 = [3,4]
numbers_1.extend(numbers_2)
print(numbers_1)
# clear
numbers_1.clear()
print(numbers_1)

```

```

[1, 4, 3, 5, 6, 7, 1, 1]
[1, 4, 3, 5, 6, 7, 1, 1, 8]
[1, 4, 3, 5, 6, 7, 1, 1]
[1, 4, 3, 6, 7, 1, 1]
3
[1, 2, 3, 4]
[]

```

```

In [5]: #
a = 5
b = a
a = a + 1
print (a,b)

a = ['Ram', 'Hari']
b = a.copy()
a.append('Gopal')
print(b)
# check value exist in list
if 'Ram' in a:
    print('Ram exist in a')

```

```

6 5
['Ram', 'Hari']
Ram exist in a

```

```

In [8]: numbers = [1,2,3,4,5,6,6]
total_items = len(numbers)
index = 0
sum = 0
while index<total_items:
    element = numbers[index]
    sum+= element
    print(element)
    index+=1
    print(sum)

```

1
1
2
3
3
6
4
10
5
15
6
21
6
27

```
In [10]: numbers = [1,2,3,4,5,6,6]

total_items = len(numbers)
index=0
max_value = numbers[0]
while index<total_items:
    element = numbers[index]
    if element > max_value:
        max_value = element
    index +=1
print(sum)
```

27

```
In [14]: students = ['Ram', 'Hari', 'Gopal']
filtered_students = [student for student in students if student != 'Ram']
print(filtered_students)

numbers = [1,3,2,4,5,7,11,9,8]
# cerate list of even numbers from given List
even_numbers = [number for number in numbers if number %2==0]

['Hari', 'Gopal']
```

In [13]: