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Subject: ARTIFICAL INTELLIGENCE

\--
Activity 1 Display numbers on screen
\--


```
4.2
```
```
    4.2
```

```
print(234)
```
```
    234
```

```
print(45.90)
```
```
    45.9
```


\--
Activity 2 Display string on screen
\--


```
'Hello'
```
```
    'Hello'
```

```
'Quote me on this!'
```
```
    'Quote me on this!'
```

```
"Whats your name?"
```
```
    'Whats your name?'
```

\--
Activity 3 Using python as calculator
\--

✓ 3s   completed at 3:16 PM   ● ✕

2+2

    4

23.5-2.0

    21.5

23-18.5

    4.5

5*6

    30

2.5*10

    25.0

2.5*2.5

    6.25

28/4

26/4

23.4/3.1

    7.548387096774193

Activity 4 Get an integer answer from division operation. Also get remainder of a division operation in the output.

28//4

    7

26//4

6

28/4

7.0

26/4

6.5

int(26/4)

6

int(28/4)

7

28%4

0

26%4

2

Activity 5 Calculate 43, 410, 429, 4150, 41000

4**3

64

4**10

1048576

4**29

288230376151711744

4**150

```
4**150
```

2037035976334486086268445688409378161051468393665936250636140449354381299763331

```
4**1000
```

1148130695274254524232833201177681984022317702088695200477642736825766261392321

Activity 6 Write following math expressions. Solve them by hand using operators' precedence. Calculate their answers using Python. Match the results.

```
2+3*6
```

20

```
(2+3)*6
```

30

```
48565878 * 578453
```

28093077826734

```
2 + 2
```

4

```
(5 - 1) * ((7 + 1) / (3 - 1))
```

16.0

```
5 +7
```

12

```
42 + 5 ** 2
```

67

Activity 7 Combine numbers and text.

```
                --------------------------------------------------
```

```
x = "Nancy"
s = "My lucky number is %d, what's your's?"%7
print(s)
#a = "My lucky number is " + str(7) + ", what's your's?"
```

```
    My lucky number is 7, what's your's?
```

```
--------------------------------------------------
```

Activity 8 Take input from the keyboard and use it in your program.

```
--------------------------------------------------
```

```
name = input("what is your name? ")
job = input("What is your job? ")
num = input("Give me a number? ")
```

```
    what is your name? Hammad Rafique
    What is your job? Software Engineer
    Give me a number? 29
```

```
print("\nHello " + name)
```

```
    Hello Hammad Rafique
```

```
print("Your job is " + job)
```

```
    Your job is Software Engineer
```

```
print("Your entered number is " + num)
```

```
    Your entered number is 29
```

```
--------------------------------------------------
```

Activity 9 Let us take an integer from user as input and check whether the given value is even or not. --

```
num = input("Enter your number: ")
if int(num)%2 == 0:
  print("Number is Even: " + str(num))
```

```
    Enter your number: 10
```

```
Enter your number: 10
Number is Even: 10
```

Activity 10 Let us modify the code to take an integer from user as input and check whether the given value is even or odd. If the given value is not even then it means that it will be odd. So here we need to use if-else statement an demonstrated below.

```
num = input("Enter your number: ")
if int(num)%2 == 0:
  print("Number is Even: " + str(num))
else:
  print("Number is odd: " + str(num))
```

```
Enter your number: 29
Number is odd: 29
```

Activity 11 Calculate the sum of all the values between 0-10 using while loop.

```
sum = 0
i = 1
while i < 10:
  sum = sum + i
  i += 1
print("Sum: " + str(i))
```

```
Sum: 10
```

Activity 12 Accept 5 integer values from user and display their sum.

```
sum = 0
for i in range(0, 4):
  val = input(f"Enter {str(i+1)} value: ")
  sum = sum + int(val)
print(sum)
```

```
Enter 1 value: 2
Enter 2 value: 2
Enter 3 value: 2
```

```
    Enter 4 value: 2
    8
```

\-

Activity 13 Write a Python code to keep accepting integer values from user until 0 is entered.
Display sum of the given values.

\-

```python
sum = 0
while True:
  val = input("Enter value: ")
  if val == "0":
    break
  else:
    sum = sum + int(val)
print(sum)
```

```
    Enter value: 2
    Enter value: 2
    Enter value: 0
    4
```

\-

Activity 14 Write a Python code to accept an integer value from user and check that whether the
given value is prime number or not.

\-

```python
isPrime = True
i = 2
n = int(input("Enter your number: "))
while i<n:
  rem = n%i
  if rem == 0:
    isPrime = False
    break
  else:
    i = i + 1

if isPrime:
  print("Number is prime: ")
else:
  print ("Number is not prime: ")
```

```
    Enter your number: 17
    Number is prime:
```

Activity 15 Write a Python code to accept marks of a student from 1-100 and display the grade according to the following formula.

```python
for i in range(1, 7):
  marks = int(input(f"Enter student {str(i)} marks: "))
  if marks >= 91:
    print("Student have Achieved Grade A\n")
  elif marks >= 81 and marks <= 90:
    print("Student have Achieved Grade B\n")
  elif marks >= 71 and marks <= 80:
    print("Student have Achieved Grade C\n")
  elif marks >= 61 and marks <= 70:
    print("Student have Achieved Grade D\n")
  elif marks >= 50 and marks <= 60:
    print("Student have Achieved Grade E\n")
  else:
    print("Student have Failed in Exams!\n")
```

```
    Enter student 1 marks: 99
    Student have Achieved Grade A

    Enter student 2 marks: 89
    Student have Achieved Grade B

    Enter student 3 marks: 79
    Student have Achieved Grade C

    Enter student 4 marks: 69
    Student have Achieved Grade D

    Enter student 5 marks: 59
    Student have Achieved Grade E

    Enter student 6 marks: 49
    Student have Failed in Exams!
```

Activity 16 Write a program that takes a number from user and calculate the factorial of that number.

```python
val = int(input("Enter your number: "))
fact = 1
```

```
for i in range(1, val + 1):
  fact = fact * i
print(f"Factorial of number is: {str(fact)}")
```

```
Enter your number: 3
Factorial of number is: 6
```

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