Indian Institute of Science Education and Research Mohali

Introduction to Computers (IDC101)
Academic Session 2018-19
Lab Session - 01

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1. Use Python as a calculator. Import math, if needed.
2. Check the output of the following Python code?

```
for n in [1,2,3,4,5,6,7,8,9,10]:
        print n**2
```

   How is it different from the following code?

```
for n in [1,2,3,4,5,6,7,8,9,10]:
        print n**2,
```

   Do more calculations with Python using for loop.

3. Find the sum of those integers between 1 and 101 which are divisible by 2 or 5.
4. To check weather an integer is prime, a student uses the following Python code. (Recall that an integer n is prime no integer apart from 1 and n itself, divides it. By convention, 1 is treated as non prime.)

```
n = input("Enter an integer to be checked for primality: ")
for i in range(2,n):
    if (n % i) == 0:
        print n, "is not prime."
    else:
        print n, "is prime."
```

   Can you improve this code? Think of more than one ways to improve it.

5. Assuming that Python does not know how to factorize an integer, write your own program to do it.
6. Use Python to form your opinion on the following statement : *"An integer $n \neq 1$ is prime if and only if n divides $(n-1)! + 1$."*
7. Find the sum of all prime numbers smaller than 100. Factorize it.
