Coding test: Basic Python (I/O, Variable, Operators, Strings)

1. **Write a python program to calculate simple interest.**

   Simple interest formula is given by:
   Simple Interest = (P x T x R)/100
   Where,
   P is the principle amount
   T is the time and
   R is the rate

   EXAMPLE1:
   Input :
   P = 10000
   R = 5
   T = 5
   Output :2500

   EXAMPLE2:
   Input :
   P = 3000
   R = 7
   T = 1
   Output :210

2. Write a python program to calculate the area of a circle.

   Area = πr^2

   where **r** is radius of circle and π = 3.1416

   Example:
   Input:
   r = 10
   output: 314.16

3. Write a python program to calculate compound interest.

Formula to calculate compound interest annually is given by:

Compound Interest = P(1 + R/100) ^{t}
Where,
P is principal amount
R is the rate and
T is the time span

Example:
Input :
Principle (amount): 1200
Time: 2
Rate: 5.4
Output :
Compound Interest = 1333.099243

4. Write a python program to calculate the average of five numbers.

Example:
Input:
a = 10
b = 20
c = 30
d = 40
e = 50
Output:
average: 30.0

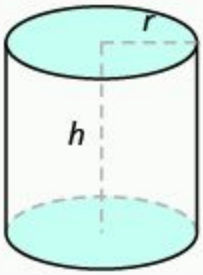
5. Write a python program to calculate the perimeter of a circle.

perimeter = $2\pi r$

where **r** is radius of circle and π = 3.1416

Example:
Input:
r = 10
output:
Perimeter: 62.83

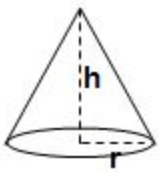
6. Write a python program to calculate the surface area of a cylinder.



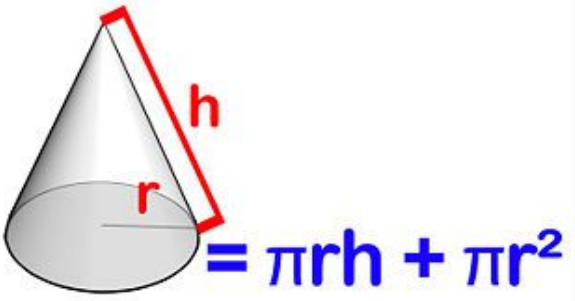
Volume: $V = \pi r^2 h$ or $V = Bh$
Surface Area: $S = 2\pi r^2 + 2\pi rh$

Example:
Input:
r = 10
h = 5
output:
Surface area: 942.48 square units
Volume: 1570.80 cube units

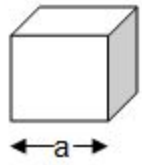
7. Write a python program to calculate the volume of Cone.
Volume:

Cone 	$1/3 \times \pi \times r^2 \times h$	r = radius of circular base h = height from tip to base

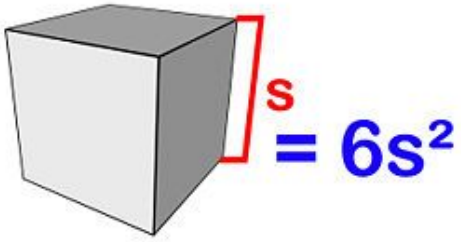
Surface area:



8. Write a python program to calculate the volume of cube.
   Volume:

Figure	Formula	Variables
Cube 	a^3	a = length of edge

   Surface area:



9. Write a python program to calculate the volume of Sphere.
   Volume:

Sphere 	$4/3 \times \pi \times r^3$	r = radius

   Surface area: