**P E S University**

**Department** **of** **Computer** **Science** **&** **Engineering**

Session :Aug-Dec 2019

**Introduction** **to** **Computing** **using** **Python** **Laboratory(** **UE19CS102)**

**Week 3 – Programs on input Function Operators**

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| 1 | Write a Python program which accepts the user's first and last name and print them in reverse order with a space between them.  Solution:  fname = input("Input your First Name : ")  lname = input("Input your Last Name : ")  print ( lname + " " + fname) |
| 2 | Write a Python program to calculate the hypotenuse of a right angled triangle by taking the input from the user.  Solution:  from math import sqrt  print("Input lengths of shorter triangle sides:")  a = float(input("a: "))  b = float(input("b: "))  c = sqrt(a\*\*2 + b\*\*2)  print("The length of the hypotenuse is", c )  **Note: you may teach the concept of import very briefly to aid them in using sqrt() function or use exponentiation operation.** |
| 3 | Write a Python program to convert seconds to day, hour, minutes and seconds.Allow the user to input the value.  Solution:  time = float(input("Input time in seconds: "))  day = time // (24 \* 3600)  time = time % (24 \* 3600)  hour = time // 3600  time %= 3600  minutes = time // 60  time %= 60  seconds = time  print(day, hour, minutes, seconds) |
| 4 | Write a python program to Swap the contents of two memory locations using bitwise and arithmetic operators.  Solution:  print("\nSwapping the contents of two memory locations without using a  temporary variable\n")  locx = locx + locy  locy = locx - locy  locx = locx – locy  print("Contents of two memory locations after swapping : \nlocation x = ",  locx, "\nlocation y = ", locy)  ------------------------------------------------------------------------------------------  a = 5  b = 6  print("before : ")  print("a : ", a)  print("b : ", b)  a = a ^ b # 0101 ^ 0110 => 0011 => 3  b = a ^ b # 0011 ^ 0110 => 0101 => 5  a = a ^ b # 0011 ^ 0101 => 0110 => 6  print("after : ")  print("a : ", a)  print("b : ", b) |
| 5 | Find the compound interest and Simple Interest on Rs. 10000 at 12% rate of interest for 1 year. Allow the user to input the values of Principle,time and rate.  Solution:  Principle=1000  time=1  rate=12  CI = principle \* (pow((1 + rate / 100), time))  print("Compound interest is", CI)  SI= principle \* time\* rate/100  print("Simple interest is", SI)  B) Find the simple interest on Rs. 5000 at a certain rate if the compound interest on  the same amount for 2 years is Rs. 253.125.  import math  p=5000  CI=5000+253.125  t=2r=round((math.sqrt((CI/p))-1)\*100,2)  print((r))  SI=p\*t\*r//100  print(SI) |
| 6 | WAP to convert given number of days to a measure of time given in years,weeks & days.Example- 375 days is equal to 1 year 1 week & 3 days.(Ignore leap year)  Solution:  daysinweek=7  nodays = 375  years = (nodays / 365)  weeks = ((nodays % 365) / daysinweek)  days = ((nodays % 365) % daysinweek)  print(nodays, " days are equivalent to \n", years, " year(s)\n", weeks, "  week(s)\n", days, " day(s)\n") |
| 7 | Given a 3-digit integer number, display the individual digits & compute the  sum of digits by allowing the user to input the value.( use this program,If not done in the previous week)  Solution:  num = 123  digit1 = int(num%10)  num1 = num//10  digit2 = int(num1%10)  digit3 = num1//10  sum = digit1 + digit2 + digit3  print("The digits are : ", digit3, digit2, digit1, "\n Sum of digits = ",sum) |
| 8 | Python Program to Find the Gravitational Force Between Two bodies.  Solution:  m1=float(input("Enter the mass of first body: "))  m2=float(input("Enter the mass of second body: "))  r=float(input("Enter the distance between of the masses: "))  G=6.673e-112  f=(G\*m1\*m2)/(r\*\*2)  print("Required gravitational force is: ",f,"N"). |