# C-Programming Lab Sheet
# I Year / I Part
# Faculty: Computer/Electrical

## Labsheet#3

Objectives:

- To familiarized with data types.
- To familiarized with various *operators.*
- To familiarized with *arithmetic expressions*.
- To familiarized with *problem solving using computer program*.

1. **WAP to read value of human height in cm and display the output in feet.**
2. **WAP to convert a temperature reading in degrees Fahrenheit to degrees Celsius.**
   [*Hint: - c = (f-32)/1.8*]
3. **WAP to calculate area and volume of a sphere, if radius read through keyboard is negative number then display appropriate message.** ( $A=4\pi r^2$ & $V=4/3\pi r^3$ )
4. **WAP to read four nos. and find their sum and percentage of each numbers with respect to their sum.**
5. **WAP to evaluate the expression:**
   (i) $Z=1.5x^2-2xy+2.5y^2$
   (ii) $Z=16x^{1/2}+(5y)^3$
   [See what happens when you press F7 for whole program]
6. **A cloth shop during festival season offers a discount of 10% on all purchases made in that shop. The bill amount for a customer is given as Rs 1000.5. WAP to calculate and display the discount, amount after discount.**
7. **WAP to convert Cartesian coordinate to polar coordinates**.
   E.g:- x-1,y=1 => r =1.414214 & θ = 44.18 [*Hint:-* $r=\sqrt{x^2+y^2}, \theta = \tan^{-1}(\frac{y}{x})$]
8. **If a=3,b=4 & c=9 then evaluate the following arithmetic expression:**

| | | | |
|---|---|---|---|
| (i) | a*b+c*(8/b) | (v) | 2*((8/5)+(b*(5-3))%(8+5-2) |
| (ii) | (3/a)*a+b%2 | | |
| (iii) | c*a/b%c | (vi) | (a*8-2*5)%(2*6-10) |
| (iv) | 2*b/(a*1)+c-2 | (vii) | (8*a*5)%(1/2*b)/(c-a+b) |

   *Determine the values if the associativity of operation is taken into consideration*.

9. **Determine the value of following conditional expressions if a=5, b=10 & c=15:**
   (i) b= (a>b)? a : c
   (ii) c= (b<c)?++:--b
   (iii)c=(b<c)?++b:b--
   (iv)a=(a>b)?a+b:c-b
10. **WAP to convert given no. of days into year, month and days.**
    400 days => 1yr, 1month, 5 days
11. **WAP to convert seconds into hour, minutes and seconds**.
    4000 seconds => 1Hr, 6minutes, 40 seconds
12. **WAP to compute equivalent resistance of two resisters R1 and R2 when they are connected in series and parallel connection.**
13. **WAP to read two end points of a line, compute mid-point and display.**