



**Rajarata University of Sri Lanka**  
**Department of Computing**

**ICT 1402 - Principles of Program Design and Programming**  
**Tutorial 07**

1. Write a program that subtracts the value 15 from 87 and displays the result, together with an appropriate message, at the terminal.
2. Identify the syntactic errors in the following program. Then type in and run the corrected program to ensure you have correctly identified all the mistakes.

```
#include <stdio.h>
int main (Void)
(
    INT sum;

    /* COMPUTE RESULT
    sum = 25 + 37 - 19

    /* DISPLAY RESULTS //
    printf ("The answer is %i\n" sum);
    return 0;
}
```

3. What output might you expect from the following program?

```
#include <stdio.h>
int main (void)
{
    int answer, result;
    answer = 100;
    result = answer - 10;
    printf ("The result is %i\n", result + 5);
    return 0;
}
```

4. Which of the following are invalid variable names? Why?

```
Int char 6_05
Calloc Xx alpha_beta_routine
floating _1312 z
ReInitialize _ A$
```

5. Which of the following are invalid constants? Why?

123.456	0x10.5	0X0G1
0001	0xFFFF	123L
0xab05	0L	-597.25
123.5e2	.0001	+12
98.6F	98.7U	17777s
0996	-12E-12	07777
1234uL	1.2Fe-7	15,000
1.234L	197u	100U
0XABCDEFL	0xabcu	+123

6. What output would you expect from the following program?

```
#include <stdio.h>
int main (void)
{
    char c, d;
    c = 'd';
    d = c;
    printf ("d = %c\n", d);
    return 0;
}
```

Write C Programs for the requirements given below

- Convert given value in Meter to centimeter.
- Calculate the volume of a cylinder.  $PI * r^2 h$
- Calculate average marks of 4 subjects which, entered separately.
- Convert the given temperature in Celsius to Fahrenheit.  $T(^{\circ}F) = T(^{\circ}C) \times 1.8 + 32$
- Find the value of  $y$  using  $y = 3.5x + 5$  at  $x = 5.23$ .
- Find the cost of 5 items if the unit price is 10.50 Rupees.
- Enter the name, height, weight and gender of a person and calculate his/her BMI in Kg.  
 $BMI = \text{weight} / \text{height}^2$
- Write a program that converts inches to centimeters. For example, if the user enters 16.9 for a Length in inches, the output would be 42.926cm. (Hint: 1 inch = 2.54 centimeters.)
- The figure gives a rough sketch of a running track. It includes a rectangular shape and two semi-circles. The length of the rectangular part is 67m and breadth is 21m. Calculate the distance of the running track.

