North South University

Department of Electrical and Computer Engineering

CSE 115L: Programming Language I Lab

Week 02 – Assignments

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1. If cost price and selling price of an item is input through the keyboard, write a program to determine whether the seller has made profit or incurred loss. Also determine how much profithe made or loss he incurred.
2. Any year is input through the keyboard. Write a program to determine whether the year is a leap year or not. (Hint: Use the % (modulus) operator)
3. According to the Gregorian calendar, it was Monday on the date 01/01/1900. If any year is input through the keyboard write a program to find out what is the day on 1st January of this year.
4. A number is entered through the keyboard. Write a program to obtain the reversed number and to determine whether the original and reversed numbers are equal or not. If they're equal, that number is called Palindrome Number.
5. If the ages of Ram, Shyam and Ajay are input through the keyboard, write a program to determine the youngest of the three.
6. Given three points (x1, y1), (x2, y2) and (x3, y3), write a program to check if all the three points fall on one straight line.
7. Any character is entered through the keyboard, write a program to determine whether the character entered is a capital letter, a small case letter, a digit or a special symbol. The following table shows the range of ASCII values for various characters.

Characters	ASCII Values
A – Z	65 – 90
a – z	97 – 122
0 – 9	48 – 57
special symbols	0 - 47, 58 - 64, 91 - 96, 123 - 127

8. A university has the following rules for a student to qualify for a degree with A as the main subject and B as the subsidiary subject:
   (a) He should get 55 percent or more in A and 45 percent or more in B.
   (b) If he gets than 55 percent in A he should get 55 percent or more in B. However, he should get at least 45 percent in A.
   (c) If he gets less than 45 percent in B and 65 percent or more in A he is allowed to reappear in an examination in B to qualify.
   (d) In all other cases he is declared to have failed.
   Write a program to receive marks in A and B and Output whether the student has passed, failed or is allowed to reappear in B.
9. Write a menu driven program which has following options:
   1. Factorial of a number.
   2. Prime or not
   3. Odd or even
   4. Exit
   Make use of switch statement

10. What would be the output of the following programs:

a)
```
main( )
{
    int  c = 3 ;
    switch ( c )

{
    case 'v' :
    printf ( "I am in case v \n" ) ;
    break ;
    case 3 :
    printf ( "I am in case 3 \n" ) ;
    break ;
    case 12 :
    printf ( "I am in case 12 \n" ) ;
    break ;
    default :
    printf ( "I am in default \n" ) ;
 }
}
```

b)
```
main( )

{
   int  ch = 'a' + 'b' ;
   switch ( ch )
   {
case 'a' :
case 'b' :
printf ( "\nYou entered b" ) ;
case 'A' :
printf ( "\na as in ashar" ) ;
case 'b' + 'a' :
printf ( "\nYou entered a and b" ) ;
   }
 }
```

c)
```
main( )

{
    int   x = 3, y, z ;
    y = x = 10 ;
    z = x < 10 ;
    printf ( "\nx = %d y = %d z =
    %d", x, y, z ) ;
}
```

d)
```
main( )

{
int   x = 3 ;
float   y = 3.0 ;
if ( x == y )
printf ( "\nx and y are equal" ) ;
else
printf ( "\nx and y are not equal" ) ;
}
```

e)
```
main( )

{
    int i = 65 ;
    char j = 'A' ;
    if ( i == j )
    printf ( "C is WOW" ) ;
    else
    printf( "C is a headache" ) ;
}
```

f)
```
main( )

{
int  x = 15 ;
printf("\n%d %d %d",x!=15,x=20, x<30);

}
```