

PROGRAMMING EXERCISES

LAB 1: CONSTRUCTOR

Type in Program 2.26, `date.cpp` and run the program. Debug any error in the program. Modify the program by declaring 3 different instances that able to pass different number of parameters based on the default argumen in the constructor. Print the value of the instances.

```
1  // Program 2.26
2  // date.cpp
3  // Constructor with default argumen
4  #include <iostream>
5  #include <string>
6
7  using namespace std;
8
9  class date
10 {      int day, year;
11        string month;
12 public:
13        // constructor with default argumen
14        // constructor must have the same name as class neme
15        date(int a=1, string b="January", int c=2008);
16        void print();
17 };
18 // constructor implementation
19 date::date(int a, string b, int c)
20 {      day = a;
21        Month = b;
22        year = c;
23 }
24 void date::print()
25 { cout << "\nThe date is : " << day << "-" << month << "-" <<
26 year;
27 }
28
29 main()
30 {
31     date birthDate; // date instance use default argument
32     birthDate.print();
33 }
34
35 }
```

LAB 2: CLASS AND OVERLOAD CONSTRUCTOR

Type in Program 2.27, `date2.cpp` and run the program. What error do you get from the program. Debug the errors. Modify the program so that it can either print the month in integer or print the month name.

```
1 // Program 2.27
2 // date2.cpp
3 // Overload constructor
4 #include <iostream>
5 #include <string>
6
7 using namespace std;
8
9 class date
10 {
11     int day,year,month;
12     string month2;
13 public:
14     // overload constructor definition
15     date(int a=1, string b="January", int c=1, int d=2019);
16     date(int);
17     void print();
18 };
19
20 // constructor implementation
21 date::date(int a)
22 {
23     day = 31;
24     month = 8;
25     month2 = "August";
26     year = a;
27 }
28
29 date::date(int a, string b,int c, int d)
30 {
31     day = a;
32     month2 = b;
33     month = c;
34     year = d;
35 }
36
37 void date::printDate()
38 {
39     cout << "\nDate is : " << day << "-" << month << "-" << year;
40 }
41
42
43
44 main()
45 {
46     date NationalDay(2019);
47     // declare instance of date using default argument
48     NationalDay.printDate();
49 }
50
51
52
53
54
```

LAB 3: DESTRUCTOR

Type in Program 2.28, **date3.cpp** and run the program. Make sure you understand how the destructor is implemented when the program terminates. Identify the object scope.

```
1 // Program 2.28
2 // Exercise 3 - date3.cpp
3 // Implementation of distructor function
4 #include <iostream>
5 #include <string>
6
7 using namespace std;
8
9 class date
10 {
11     int day, year;
12     string month;
13 public:
14     // constructor with default argumen
15     // constructor must have the same name as class neme
16     date(int a=1, string b ="January", int c=2020);
17
18     // destructor
19     ~date()
20     { cout << "\nObject with Date : " << day << "-" << month
21       << "-" << year << " is destroyed";
22     }
23
24     void print();
25 };
26
27 // constructor implementation
28 date::date(int a, string b, int c)
29 {
30     day = a;
31     month = b;
32     year = c;
33 }
34
35 void date::print()
36 { cout << "\nThe date is : " << day << "-" << month << "-" <<
37   year;
38 }
39
40 main()
41 {
42     date MalaysianDay(19,"September",2019);
43     MalaysianDay.print();
44     date registerDay(9,"September",2019);
45     registerDay.print();
46 }
```