Computer Systems and Programming Lab Manual 7 Lab Task

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Class: ME-15 C

Q1. Take 10 integer inputs from user and store them in an array and print them on screen.

```cpp
1    #include <iostream>
2    using namespace std;
3
4    int main() {
5       int num[10];
6       for (int i=0; i<10; i++) {
7          cout << "enter your integer:" << endl;
8          cin >> num[i];
9       }
10      cout << "your integers are: " << endl;
11      for (int i: num) {
12         cout << i << "   " ;
13      }
14      return 0;
15   }
16
```

```
enter your integer:
2
enter your integer:
8
enter your integer:
34
enter your integer:
1
enter your integer:
87
enter your integer:
43
enter your integer:
98
enter your integer:
23
enter your integer:
22
enter your integer:
55
your integers are:
2  8  34  1  87  43  98  23  22  55
Process returned 0 (0x0)    execution time : 13.838 s
Press any key to continue.
```

Q2. Write a program to find the sum and product of all elements of an array with 5 integer elements.

```cpp
1    #include <iostream>
2    using namespace std;
3
4    int main() {
5        int nums[5];
6        for (int i=1; i<=5; i++) {
7        cout << "Enter your integer:" << endl;
8        cin >> nums[i];
9        }
10       int sum = 0;
11       int mult= 1;
12       for (int i=1; i<=5; i++) {
13           sum += nums[i];
14           mult *= nums[i];
15       }
16       cout << "sum of your integers: " << sum << endl;
17       cout << "product of your integers: " << mult;
18       return 0;
19   }
20
```

```
Enter your integer:
2
Enter your integer:
4
Enter your integer:
3
Enter your integer:
3
Enter your integer:
5
sum of your integers: 17
product of your integers: 360
Process returned 0 (0x0)   execution time : 3.089 s
Press any key to continue.
```

Q3. Print diamond pattern using a single array.

```cpp
#include <iostream>
using namespace std;

int main() {
    string dmn[5];
    int upper=2;
    int lower=2;
    for (int i=0; i<=4; i++) {
        dmn[i]= "* ";
    }
    for (int j=0; j<=4; j++) {
        for (int i=0; i<=4; i++) {
            if (i<=upper && i>=lower) {
                cout << dmn[i];
            }
            else {
                cout << "  ";
            }
        }
        if (j<2) {
            upper++;
            lower--;
        }
        else {
            upper--;
            lower++;
        }
        cout << endl;
    }
    return 0;
}
```

```
    *
  * * *
* * * * *
  * * *
    *

Process returned 0 (0x0)    execution time : 0.027 s
Press any key to continue.
```