Department of Mechanical Engineering



CS-114 - Fundamental of Programing

Lab Tasks - 7

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LAB TASK 1:

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

Code:

```
#include <iostream>
       #include <cstring>
       using namespace std;
       int main()
 6 -
           LAB TASK 1
           int x [10];
cout<<"Please enter the ten integers"<<endl;</pre>
10
           for(int i=0; i<10; i+=1){
           cin>>x[i];}
for(int j=0; j<10; j+=1){
cout<<x[j]<<" ";}</pre>
12
13
14
15
           return 0;
16
```

Result:

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LAB TASK 2:

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

Code:

```
#include <iostream>
      #include <cstring>
      using namespace std;
      int main()
6 -
          LAB TASK 2
           int a [5] = \{\};
           int sum;
          int p = 1;
cout<<"Please enter the 5 integers"<<endl;</pre>
10
11
           for(int i=0; i<5; i+=1){
12 -
          cin>>a[i];}
for(int i=0; i<5; i+=1){</pre>
13
14 -
           sum = sum+a[i];}
15
          for(int j=0; j<5; j+=1){
16 -
17
          p = p*a[j];}
18
          cout<<"the sum is "<<sum<<" and the product is "<<p<<endl;</pre>
19
20
           return 0;
21
```

Result:

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LAB TASK 3:

3. Print diamond pattern using a single array.

Code:

```
#include <iostream>
 2
     #include <cstring>
 4
     using namespace std;
     int main()
 6 -
          LAB TASK 3
 7
 8
          int r;
9
          cout<<"Please enter the number of rows"<<endl;
10
11
          if(r%2==0){ cout<<"Please enter an odd number"<<endl; return 0;}</pre>
12 🖳
          else{
13
              char b[r];
14
              int h = r/2;
15
             for upper half
              for(int i=0; i<=r; i+=1){b[i]= ';}
16
17 🖳
              for(int j=0; j<=h; j+=1){
18
                  b[h-j]=
19
                  b[h+j]=
20
                  for(int z=0; z<r; z+=1){cout<<b[z];}</pre>
21
                  cout<<endl;
22
23
              reverse of previous part, for the lower half
24
              for(int q=0; q<h; q+=1){
25
                  b[r-1-q]=
26
                  b[q]=
27
                  for(int s=0; s<r; s+=1){cout<<b[s];}
28
                  cout<<endl;
29
30
31
          return 0;
32
```

Result: