

Bahria University,

Karachi Campus



Bahria University
Discovering Knowledge

COURSE: CSC -113 Computer Programming Lab
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Submitted To:

COMPUTER PROGRAMMING LAB 11

1. Initialize an integer array of 5 elements. Display values of all elements along with their addresses using pointers.

PROGRAM:

```
8  #include <iostream>
9  using namespace std;
10 int main()
11 {
12  int nums[ ] = {15,14,13,12,9};
13  cout<<"\nArray's element    Memory address";
14  for(int dex=0; dex<5; dex++)
15  cout<<"\n\t"<<*(nums + dex)<<"\t\t"<<(nums + dex);
16  return 0;
17 }
18
```

input

```
Array's element    Memory address
      15           0x7ffdae155640
      14           0x7ffdae155644
      13           0x7ffdae155648
      12           0x7ffdae15564c
       9           0x7ffdae155650

...Program finished with exit code 0
Press ENTER to exit console.
```

COMPUTER PROGRAMMING LAB 11

2. Write a program which uses a pointer variable pointing to three different integer values, one at a time. Alter the input integers by performing multiplication using the pointer variable and display the updated values.

PROGRAM:

```
8  #include <iostream>
9  using namespace std;
10 int Mult(int *, int *,int *);
11 int main(){
12     int x,y,z;
13     cout<<"Enter 1st Value:";
14     cin>>x;
15     cout<<"Enter 2nd Value:";
16     cin>>y;
17     cout<<"Enter 3rd value:";
18     cin>>z;
19     cout<<".....Multiplication....." <<endl <<endl;
20     cout<<"The integer Multiplication of these numbers is:"<<Mult(&x,&y,&z)<<endl;
21     cout<<endl <<endl;
22     return 0;
23 }
24 int Mult(int *a, int *b,int *c){
25     int Prod;
26     Prod=(*a * *b * *c);
27     return Prod;
28 }
29
```

input

```
Enter 1st Value:5
Enter 2nd Value:7
Enter 3rd value:5
.....Multiplication.....

The integer Multiplication of these numbers is:175

...Program finished with exit code 0
Press ENTER to exit console.
```

COMPUTER PROGRAMMING LAB 11

3. Write a program which use one function that swap the values by reference

PROGRAM:

```
8  #include <iostream>
9  using namespace std;
10 void swap(int&, int&);
11
12 int main()
13 {
14     int x = 200, y = 80;
15     cout << "Before swapping" << endl;
16     cout << "x = " << x << endl;
17     cout << "y = " << y << endl;
18     swap(x, y);
19     cout << "\nAfter swapping" << endl;
20     cout << "x = " << x << endl;
21     cout << "y = " << y << endl;
22     return 0;
23 }
24
25 void swap(int& n1, int& n2) {
26     int temp;
27     temp = n1;
28     n1 = n2;
29     n2 = temp;
30 }
31
```

input

```
Before swapping
x = 200
y = 80

After swapping
x = 80
y = 200

...Program finished with exit code 0
Press ENTER to exit console.
```

COMPUTER PROGRAMMING LAB 11

4. Write a program which uses two functions and passes pointer as an argument .the function getNumber takes an input from the user and stores it in the pointer variable. The function double value doubles the value of the same.

PROGRAM:

```
8  #include <iostream>
9  using namespace std;
10
11 void getnumber (int& a, int& b)
12 {
13     a*=2;
14     b*=2;
15 }
16
17 int main ()
18 {
19     int x, y;
20     cout<<"x = ";
21     cin>>x;
22     cout<<"y = ";
23     cin>>y;
24     cout<<endl;
25     getnumber (x, y);
26     cout << "x = " << x << ", y = " << y ;
27     return 0;
28 }
29
```

input

```
x = 4
y = 5

x = 8, y = 10

...Program finished with exit code 0
Press ENTER to exit console.
```

COMPUTER PROGRAMMING LAB 11

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