SVKM's NMIMS

Mukesh Patel School of Technology Management and Engineering, Mumbai

Programming for Problem Solving (Exp 9 - 2)

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Task 1:

Code:

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

int main () {
  int  var[3] = {10, 100, 200}, *ptr;

  ptr = var;
  cout << "Incrementing Pointer\n";
  for (int i = 0; i < 3; i++) {
    cout << "Address of var[" << i << "] = " << ptr << endl;
    cout << "Value of var[" << i << "] = " << *ptr << endl;
    ptr++;
  }

  ptr = &var[2];
  cout << "\nDecrementing Pointer\n";
  for (int i = 3; i > 0; i--) {
    cout << "Address of var[" << i << "] = " << ptr << endl;
    cout << "Value of var[" << i << "] = " << *ptr << endl;
    ptr--;
  }

  return 0;
}
```

Task 2:

Code:

```
#include <iostream>
```

```
using namespace std;

int main() {
   int x, y, * a, * b, temp;

   cout << "Enter the value of x and y\n";
   cin >> x >> y;

   cout << "\nBefore Swapping\n x = " << x << "  y = " << y;

   a = & x;
   b = & y;

   temp = * b;
   * b = * a;
   * a = temp;

   cout << "\nAfter Swapping\n x = " << x << "  y = " << y;

   return 0;
}
```

Task 3:

Code:

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

int largest(int *arr, int length);

int main() {
   int size_arr;
   cout << "Enter number of elements: ";
```

```
   cin >> size_arr;
   cout << endl;
   int array[size_arr];
   for (int i = 0; i < size_arr; i++) {
      cout << "\nEnter element no " << i + 1 << ": ";
      cin >> array[i];
   }
   cout << "\nThe Largest Element is: " << largest(array, size_arr) << endl;
}

int largest(int *arr, int length) {
   int max = arr[0];
   for (int i = 0; i < length; i++)
      if (arr[i] > max) {
         max = arr[i];
      }
   return max;
};
```

Task 4:

Code:

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

int main() {
   int var = 123;
   int *ptr = &var;
   int **pptr = &ptr;

   cout << "Value of var = " << var << endl;
   cout << "Value of var using single pointer = " << *ptr << endl;
   cout << "Value of var using double pointer = " << **pptr << endl;
```

```
   return 0;
}
```

Task 5:

Code:

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

int main() {
   char str[100];
   char * ptr;

   cout << "Enter a string: ";
   cin >> str;

   ptr = str;

   cout << "Entered string is: ";
   while ( * ptr != '\0') {
      cout << * ptr++;
   }

   return 0;
}
```

Homework Questions:

1:

Output:

129, a