1. Write a program to create a function template for finding maximum value contained in an array.

```
#include<iostream>
#define MAX 5
using namespace std;
template <class T>


void MAXIMUM(T a[])
{
   int m = -9999;

   for(int i=0;i<MAX;i++)
   {
      if(a[i] > m)
      {
         m = a[i];
      }
   }
   cout<<"The maximum value is => "<<m<<endl;
}
int main()
{
   int a[MAX];
   for(int i=0;i<MAX;i++)
   {
      cout<<"Enter the elements => ";
      cin>>a[i];
   }
   MAXIMUM(a);
}
```

2. Write a program to create a class template for the 'Array' class.

```
#include<iostream>
#define MAX 5
using namespace std;
template <class A>
class B
{
private:
   A a[MAX];
```

```
        public:
          void get()
          {
            for(int i=0;i<MAX;i++)
            {
            cout<<"Enter the array => ";
            cin>>a[i];
            }
          }
          void display()
          {
            cout<<"Array elements => "<<endl;
            for(int i=0;i<MAX;i++)
            {
            cout<<a[i]<<endl;
            }
          }
        };

        int main()
        {
          B <int> a1;
          a1.get();
          a1.display();
          cout<<endl;
          B <string> a2;
          a2.get();
          a2.display();
}
```

3. Create a template for the bubble sort function.

```
        #include<iostream>
        #define MAX 40
        int n;
        using namespace std;
        template <class A>

        int bubble(A a[MAX])
        {
          int i,j;
          A tmp;

          for(i=0;i<n;i++)
          {
            for(j=0;j<(n-1);j++)
            {
```

```
            if(a[j] > a[j+1])
            {
              tmp = a[j];
              a[j] = a[j+1];
              a[j+1] = tmp;
            }
          }
      }

      for(i=0;i<n;i++)
      {
         cout<<a[i]<<"\t";

      }
}

int main()
{
   int arr[MAX],value;
   char ch[MAX];
   float val[MAX];

   cout<<"Enter the total number of array => ";
   cin>>n;

  do{
  cout<<"\n ************* MENU ************** ";
  cout<<"\n 1. Integer sort ";
  cout<<"\n 2. Char sort ";
  cout<<"\n 3. Float sort ";
  cout<<"\n 4. Exit ";
  cout<<"\n ************* **** ************** ";

  cout<<"\n Enter your choice => ";
  cin>>value;

  switch(value)
  {
  case 1:

    for(int i = 0;i<n;i++)
    {
       cout<<"Enter the array element => ";
       cin>>arr[i];
    }
    cout<<"Before sorting array => ";
    for(int i = 0;i<n;i++)
    {
```

```
                cout<<arr[i]<<"\t";
              }
               cout<<"\n After sorting array => ";
               bubble(arr);

              break;

            case 2:
              for(int i = 0;i<n;i++)
              {
                cout<<"Enter the array element => ";
                cin>>ch[i];
              }
               cout<<"Before sorting array => ";
              for(int i = 0;i<n;i++)
              {
                cout<<ch[i]<<"\t";
              }
               cout<<"\n After sorting array => ";
               bubble(ch);

              break;

            case 3:
              for(int i = 0;i<n;i++)
              {
                cout<<"Enter the array element => ";
                cin>>val[i];
              }
               cout<<"Before sorting array => ";
              for(int i = 0;i<n;i++)
              {
                cout<<val[i]<<"\t";
              }
               cout<<"\n After sorting array => ";
               bubble(val);

              break;

            case 4:
             cout<<"Good Bye.."<<endl;
             break;

            default:
             cout<<"Invalid Choice "<<endl;
            }
            }while(value != 4);
}
```

4. Write a program to create a function template for swapping the two value.

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

template <class A>

void swp(A a,A b)
{
   cout<<"Before swap value : "<<endl<<"a is  => "<<a<<endl<<"b is =>
"<<b<<endl;
   A tmp;
   tmp = a;
   a = b;
   b = tmp;
   cout<<"After swap value : "<<endl<<"a is  => "<<a<<endl<<"b is => "<<b;
}

int main()
{
   string x,y;
   cout<<"Enter the value 1 => ";
   cin>>x;
   cout<<"Enter the value 2 => ";
   cin>>y;
   swp(x,y);
}
```

5. Write a program to illustrate the use of put(), get() and getline() functions for Text mode Input/Output

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

int main()
{
   char c,d;
   string s;
   cout<<"Enter any character => ";
   cin>>c;


   ofstream kg("karan.txt");
   kg.put(c);
```

```
    kg.close();

    ifstream dp("karan.txt");
    //dp.get(d);
    getline(dp,s);
}
```

6. Write a program to read character, integer and string from keyboard and write it in “data.txt” file and read from file in text mode.

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

int main()
{
   char c;
   int a;
   string s,d;

   cout<<"Enter your name first character => ";
   cin>>c;
   cout<<"Enter the roll no => ";
   cin>>a;
   cout<<"Enter the name => ";
   cin>>s;

   ofstream kg("example.txt");

   kg<<c<<endl;
   kg<<a<<endl;
   kg<<s<<endl;

   ifstream dp("example.txt");
   while(!dp.eof())
   {
      getline(dp,d);
      cout<<d<<endl;
   }
}
```

7. Write a program to read your name and roll number from keyboard and write it in “mydata.txt “ file and read from file in text mode.

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

int main()
{

   int a;
   string s,d;


   cout<<"Enter the Roll no=> ";
   cin>>a;
   cout<<"Enter the name => ";
   cin>>s;

   ofstream kg("mydata.txt");


   kg<<a<<endl;
   kg<<s<<endl;

   ifstream dp("mydata.txt");
   while(!dp.eof())
   {
      getline(dp,d);
      cout<<d<<endl;
   }
}
```

8. Write a program to read product name and product price from keyboard and write it in "product.txt" file and read from file in text mode.

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

int main()
{

   int a;
   string s,d;

   cout<<"Enter the product name  => ";
   cin>>s;
```

```
        cout<<"Enter the product price=> ";
        cin>>a;

        ofstream kg("product.txt");

        kg<<s<<endl;
        kg<<a<<endl;

        ifstream dp("product.txt");
        while(!dp.eof())
        {
          getline(dp,d);
          cout<<d<<endl;
        }
      }
```

9. Write down a program to create a file temp.txt, write into the specific file than read the same data from the file

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

int main()
{
  string a,d;
  cout<<"Enter your name => ";
  cin>>a;

  ofstream kg("temp.txt");
  kg<<a<<endl;
  kg.close();

  ifstream dp("temp.txt");
  while(!dp.eof())
  {
    getline(dp,d);
    cout<<d<<endl;
  }
}
```