**Lab Task-5**

**Instructions: Please read carefully**

* Please rename this file as only your ID number **(e.g. 20-\*\*\*\*\*-3.doc or 20-\*\*\*\*\*-3.pdf).**
* Submit the file before **the given time** in VUES section labeled **Lab task 5. If you cannot complete the full task, do not worry. Just upload what you have completed.**

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| **Question No.1**  Write a program that will demonstrate the work of a pointer |
| **Your code here:**  #include <iostream>  using namespace std;  int main(){  int \*p, var=101;  p = &var;  cout<<"Address of var: "<<&var<<endl;  cout<<"Address of var: "<<p<<endl;  cout<<"Address of p: "<<&p<<endl;  cout<<"Value of var: "<<var<<endl;  cout<<"Value of var after applying point: "<<\*p;  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.2**  Write a program to swap the value of two variables using pointers |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  {  int m;  int n;  cout<<"Input a integer: ";  cin>>m;  cout<<endl;  cout<<"Input another integer: ";  cin>>n;  cout<<endl;  cout<<endl;  int \*i;  int \*j;  int t;  i = &m;  j = &n;  t = \*i;  \*i = \*j;  \*j = t;  cout<<"After swapping:\nThe value of first interger is: "<<m<<endl<<"The value of 2nd integer is: "<<n<<endl;  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.3**  Write a program to print the value of an array in forward and reverse order. |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  {  int arr[4] = {5,56,220,492};  cout<<"Value of array in forward order:"<<endl;  {  }  for (int i=0; i<4; i++)  {  cout<<arr[i]<<endl;  } cout<<endl;  cout<<"Value of array in reverse order:"<<endl;  cout<<arr[3]<<endl;  cout<<arr[2]<<endl;  cout<<arr[1]<<endl;  cout<<arr[0]<<endl;  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.4**  Take input into an array starting from the last index |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  { cout<<"Enter size of array: ";  int n=0;  cin>>n;  n=n-1;  int arr[n];  cout<<"Enter the numbers from the last index: "<<endl;  for(int i=n; i>=0; i--)  cin>>arr[i];  cout<<endl;  cout<<"Inputed numbers from the first index: "<<endl;  { for (int j; j<=n; j++)  {  cout<<arr[j]<<endl;  }  }  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.5**  Write a program that find the odd numbers of an array and find the sum of the even numbers |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  {  int arr[10]={1,2,3,4,5,6,7,8,9};  int odd=0,sum=0;  cout<<"arr[10]={1,2,3,4,5,6,7,8,9}"<<endl<<endl;  cout << "Odd numbers from above array: ";  for(int i=0; i<10; i++)  {  if(arr[i]%2!=0)  {  cout<<arr[i]<<" ";  }  else  sum = sum+arr[i];  } cout<<endl<<endl;  cout << "Sum of even numbers: "<<sum<< endl;  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.6**  Write a program that will find the maximum and minimum values of an array. |
| **Your code here:**  #include<iostream>  using namespace std;  int main ()  {  int arr[10], n, i, max, min;  cout << "Enter the size of the array : "<<endl;;  cin >> n;  cout << "Enter the values of the array : "<<endl;  for (i = 0; i < n; i++)  cin >> arr[i];  max = arr[0];  for (i = 0; i < n; i++)  {  if (max < arr[i])  max = arr[i];  }  min = arr[0];  for (i = 0; i < n; i++)  {  if (min > arr[i])  min = arr[i];  }  cout << "Maximum value : " << max<<endl;  cout << "Minumum value : " << min<<endl;  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.7**  Write a program that will count the number of times a particular number appears in the array. Take the number as an input from the user. |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  {  int arr[20]={3,4,5,6,2,3,6,8,9,1,2,4,3,2,4,3,2,4,3,5};  int a, b=0;  cout << "Enter a Value: ";  cin >> a;  cout<<endl;  for(int i=0; i<20; i++)  if(arr[i]==a)  b++;  if(a>1)  { cout <<"Value found "<< b << " times" << endl; }  else  cout <<"Value found "<< b << " time" << endl;  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.8**  Use a pointer to access the elements of an array. Then using input from the user change the value of an index as per your wish. |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  {  int arr[5]={7,73,999,65,87};  int \*p;  int m,n;  for(int i=0; i<5; i++)  {  cout<<"Number assigned to index "<<i+1 << ": "<<arr[i]<<endl;  }  cout<<endl<<"Choose the number of index you want to change: ";  cin>>m;  cout<<endl<<endl;  cout<<"Enter the number you want to input in this index: ";  cin>>n;  p = &arr[m-1];  \*p = n;  cout<<endl;  for(int i=0; i<5; i++)  {  cout<<"New number assigned to index "<<i+1 << ": "<<arr[i]<<endl;  }  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.9**  Use a pointer to change the password of a particular user from the login system program shown in the class. |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  {  string user[3] ={"akash","avro","alen"};  string pass[3] ={"123","567","891"};  string \*p;  string s,a,f,e;  cout << "Username: ";  cin >> s;  for(int i=0; i<4; i++){  if(user[i]==s){  cout << "Password : ";  cin >> a;  if(pass[i]!=a)  {  cout << "wrong password";  break;  }  else if(pass[i]==a)  {  cout << "Do you want to change password?(yes/no)" << endl;  cin >> e;  if((e=="yes") || (e=="Yes") || (e=="y") || (e=="Y"))  {  cout << " Input new password : ";  cin >> f;  p = &f;  pass[i] = \*p;  cout << "Password changed." << endl;  break;  }  }  }  else if(i==3){  cout << "wrong username!";  }  }  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.10**  Initialize TWO integer arrays of different sizes. Merge the input arrays and create a new array. Then print the new array in reverse order.  For example,  Array\_1 = **{10,20,30,40,50}**  Array\_2 = **{1,2,3,4,5,6,7,8}**  Output: **8 7 6 5 4 3 2 1 50 40 30 20 10** |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  {  int arrone[5]={10,20,30,40,50};  int arrtwo[8]={1,2,3,4,5,6,7,8};  cout<<"Array\_1 = {10,20,30,40,50}"<<endl;  cout<<"Array\_2 = {1,2,3,4,5,6,7,8}"<<endl<<endl<<endl;  int arrmerge[13];  int a = 0;  for(int i=0; i<13; i++){  if(i<5)  {  arrmerge[i]=arrone[i];  }  else  {  arrmerge[i]=arrtwo[a];  a++;  }  }  cout << "Output: ";  for(int i=12; i>=0; i--)  {  cout << arrmerge[i] << " ";  } cout<<endl<<endl;  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.10**  Initialize TWO integer arrays of different sizes. Merge the input arrays and create a new array. Then print the new array in reverse order.  For example,  Array\_1 = **{10,20,30,40,50}**  Array\_2 = **{1,2,3,4,5,6,7,8}**  Output: **8 7 6 5 4 3 2 1 50 40 30 20 10** |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  {  int arrone[5]={10,20,30,40,50};  int arrtwo[8]={1,2,3,4,5,6,7,8};  cout<<"Array\_1 = {10,20,30,40,50}"<<endl;  cout<<"Array\_2 = {1,2,3,4,5,6,7,8}"<<endl<<endl<<endl;  int arrmerge[13];  int a = 0;  for(int i=0; i<13; i++){  if(i<5)  {  arrmerge[i]=arrone[i];  }  else  {  arrmerge[i]=arrtwo[a];  a++;  }  }  cout << "Output: ";  for(int i=12; i>=0; i--)  {  cout << arrmerge[i] << " ";  } cout<<endl<<endl;  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.11**  Initialize an integer array of size 10. Print the number of time each element occurs in the array.  For example,  Array\_1 = **{8,4,6,1,6,9,6,1,9,8}**  Output:  **8 occurs = 2 times**  **4 occurs = 1 time**  **6 occurs = 3 times**  **1 occurs = 2 times**  **9 occurs = 2 times** |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  { int n=10;  int arr[n];  cout<<"Enter 10 interger: "<<endl;  for(int i=n; i>=0; i--)  cin>>arr[i];  int freq[10] = {-1,-1,-1,-1,-1,-1,-1,-1,-1,-1};  int a;  for(int i=0; i<10; i++)  {  a = 1;  for(int j=i+1; j<10; j++)  {  if(arr[i]==arr[j])  {  a++;  freq[j] = 0;  }  if(freq[i] != 0)  {  freq[i] = a;  }  }  }  for(int i=0; i<10; i++)  {  if(freq[i]==1)  {  cout << arr[i] << " occurs = " << freq[i] << " time" << endl;  }  else if(freq[i]!=0){  cout << arr[i] << " occurs = " << freq[i] << " times" << endl;  }  }  } |
| **Your whole Screenshot here: (Console Output):** |

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| **Question No.12**  Take input in an array in such a way, so that there are no duplicate entry. |
| **Your code here:** |
| **Your whole Screenshot here: (Console Output):** |