**Lab Task-1**

**Instructions: Please read carefully**

* Please rename this file as only your ID number **(e.g. 18-\*\*\*\*\*-1.doc or 18-\*\*\*\*\*-1.pdf).**
* Submit the file before **the deadline** in VUES under Lab Task-1**. If you cannot complete the full task, do not worry. Just upload what you have completed.**

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| 1. Initialize an array of 10 elements and print the array elements both in normal and reverse order.   For example,  Input: **12 32 43 1 54 53 15 64 3 13**  Output: **13 3 64 15 53 54 1 43 32 12** |
| **Your code here:**  **#include<iostream>**  **#include<string.h>**  **using namespace std;**  **int main(void)**  **{**  **int n=10;**  **int i;**  **int a[n];**  **cout<<"Take 10 number of inputs respectively : "<<endl;**  **for(i = 0; i < n; i++)**  **{**  **cin>>a[i];**  **}**  **cout<<"Current order : ";**  **for(i = 0; i < n; i++)**  **cout<< a[i]<<" ";**  **cout<<endl;**  **cout<<"Reverse order : ";**  **for(i = n-1; i >= 0; i--)**  **cout<<a[i]<<" ";**  **return 0;**  **}** |
| **Your whole Screenshot here: (Console Output):** |

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| 1. Initialize an integer array of 10 elements and print how many numbers are odd and how many numbers are even.   For example,  Input: **12 32 43 1 54 53 15 64 3 13**  Output:  **6 odd numbers**  **4 even numbers** |
| **Your code here:**  #include<iostream>  #include<string.h>  using namespace std;  #define num\_size 10  int main()  {  int num[num\_size];  int even,odd,i;  even=odd=i=0;  cout<<"Enter 10 Number Respectively:"<<endl;  for(i=0;i<10;i++)  {  cin>>num[i];  if (num[i]%2==0)  {  even++;  }  else  {  odd++;  }  }  cout<<odd<<" Odd numbers"<<endl;  cout<<even<<" Even numbers"<<endl;  } |
| **Your whole Screenshot here: (Console Output):** |

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| 1. Write a function that takes TWO parameters to print all the odd numbers between a given range. Input the starting value of the range and ending value of the range. Then, send them as the parameters to your function.   For example,  Output:  **Starting value: 12**  **Ending value: 23**  **13 15 17 19 21 23** |
| **Your code here:**  #include<iostream>  #include<string.h>  using namespace std;  int func(int a,int b)  {  for (int i=a; i<=b; i++)  {  if (i%2!=0)  {  cout<<i<<" ";  }  else{}  }  }  int main()  {  int a,b;  cout<<"Starting Value : ";  cin>>a;  cout<<"Ending Value : ";  cin>>b;  func(a,b);  } |
| **Your whole Screenshot here: (Console Output):** |

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| 1. Write a program to perform matrix addition between 3 matrices.   For example,  Input:  **12 13 14 1 2 3 101 104 107**  **15 16 17 4 5 6 102 105 108**  **18 19 20 7 8 9 103 106 109**  Output:  **114 119 124**  **121 126 131**  **128 133 138** |
| **Your code here:**  #include <iostream>  using namespace std;  int main()  {  int r, d, a[100][100], b[100][100],c[100][100], sum[100][100], i, j;  cout << "Enter number of rows : ";  cin >> r;  cout << "Enter number of columns : ";  cin >> d;  cout << endl << "Enter elements of 1st matrix: " << endl;  for(i = 0; i < r; ++i)  for(j = 0; j < d; ++j)  {  cout << "Enter element a" << i + 1 << j + 1 << " : ";  cin >> a[i][j];  }    cout << endl << "Enter elements of 2nd matrix: " << endl;  for(i = 0; i < r; ++i)  for(j = 0; j < d; ++j)  {  cout << "Enter element b" << i + 1 << j + 1 << " : ";  cin >> b[i][j];  }  cout << endl << "Enter elements of 3rd matrix: " << endl;  for(i = 0; i < r; ++i)  for(j = 0; j < d; ++j)  {  cout << "Enter element c" << i + 1 << j + 1 << " : ";  cin >> c[i][j];  }  for(i = 0; i < r; ++i)  for(j = 0; j < d; ++j)  sum[i][j] = a[i][j] + b[i][j]+ c[i][j];  cout << endl << "Addition of 3 matrix is: " << endl;  for(i = 0; i < r; ++i)  for(j = 0; j < d; ++j)  {  cout << sum[i][j] << " ";  if(j == d - 1)  cout << endl;  }  return 0;  } |
| **Your whole Screenshot here: (Console Output):** |

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| 1. Write a function to calculate factorial of a given integer number if that number is a prime number. If it is not, it will give an error.   For example,  Scenario 1  Input: **5**  Output: **120**  Scenario 2  Input: **4**  Output: **Error! Not a prime number.** |
| **Your code here:**  #include<iostream>  #include<string.h>  using namespace std;  int Prime(int n)  {  int i, c=0;  for(i=2; i<=n/2; ++i)  {  if(n%i==0)  {  c++;  }  }  if (c==0)  {  int f=1;  for (int i=1;i<=n;i++)  {  f=i\*f;  }  cout<<f;  }  else  {  cout<<"ERROR! Not a prime number"<<endl;  }  }  int main()  {  int n;  cout<<"Enter A Number to check:";  cin>>n;  Prime(n);  return 0;  } |
| **Your whole Screenshot here: (Console Output):**  Scenario 1    Scenario 2 |