**Assignment # 1**

**ME XXX:COMPUTER SYSTEMS AND PROGRAMMING**



**SUBMITTED BY:**

**Muhammad Hamza(467023)**

**DEPARTMENT OF MECHANICAL ENGINEERING**

**NATIONAL UNIVERSITY OF SCIENCES AND TECHNOLOGY,H12**

**#include<iostream>**

**using namespace std;**

**TASK 1**

**Factors of numbers using for loops**

**//int main()**

**//{**

**// int x=0;**

**// cout<<"Number:";**

**// cin>>x;**

**// for(int i=1;i<=x;i++)**

**// {**

**// if(x%i==0)**

**// {**

**// cout<<i<<" is a factor of "<<x<<endl;**

**// }**

**// }**

**//}**

**TASK 2**

**OUTPUT TO GIVEN CODE**

#include int main() { int x = 5; int y = 10; if (x == 5) if (y == 10) std::cout << "x is 5 and y is 10" << std::endl; else std::cout << "x is not 5" << std::endl; return 0; }

**//OUTPUT:**

**//X=5**

**//Y=10**

**TASK 3**

**TAKE INTEGER AND CHECK IF ITS GREATER THAN 10 AND LESS THAN EQUAL TO 20.PRINT 1IF YES AND PRINT 0 IF NO.**

**//int main()**

**//{**

**// int x;**

**// cout<<"NUMBER:";**

**// cin>>x;**

**// if (x>10 && x<=20)**

**// {**

**// cout<<1;**

**// }**

**// else**

**// {**

**// cout<<0;**

**// }**

**//}**

**//**

**TASK 4**

Write a C++ program that uses a while loop to find the largest prime number less than a given positive integer N. Your program should take the value of N as input from the user and then find the largest prime number less than or equal to N. You are not allowed to use any library or pre-existing functions to check for prime numbers.

**//int main(){**

**// int x=0,i=1,c=2,p=1;**

**// bool h=true;**

**// cout<<"number:";**

**// cin>>x;**

**// while (c<=x)**

**// {**

**// h=true;**

**// i=2;**

**// while (i<c && h==true)**

**// {**

**// if (!(c% i == 0))**

**// {**

**// h = true;**

**// }**

**// else**

**// {**

**// h = false;**

**// }**

**// i++;**

**// }**

**// if (h == true)**

**// {**

**// p=c;**

**// }**

**// c++;**

**// }**

**//cout << "The largest prime number is " <<p<<endl;**

**//}**

**TASK 6**

Perform division in C++ without / using for loops. You can use / only to display the final results. Your dividend must be greater than divisor

**//int main()**

**//{**

**// int x,q,d;**

**// cout << "number:";**

**// cin >>x;**

**// cout << "divisor:";**

**// cin>>d;**

**// while (x>=d)**

**// {**

**// x-= d;**

**// q++;**

**// }**

**// cout << "The answer is " <<q<< endl;**

**//}**

**//**

**TASK 8**

Suppose an integer array a[5] = {1,2,3,4,5}. Add more elements to it and display them in C++.

**//int main()**

**//{**

**// int array[] = { 1,2,3,4,5 };**

**// int x=5;**

**// array[x]=1;**

**// array[x+1]=2;**

**// array[x+2]=3;**

**// array[x+3]=4;**

**// array[x+4]=5;**

**//**

**// for (int i=0;i<x+5;i++){**

**// cout << array[i] << " " <<endl ;**

**// }**

**//return 0;**

**//}**

**//**

**TASK 9**

Given an integer array and an integer X. Find if there’s a triplet in the array which sums up to the given integer X

**//int main()**

**//{**

**// int array[10];**

**// int x;**

**// bool y=false;**

**// cout<<"INTEGER:";**

**// cin>>x;**

**// cout<<"numbers of the array:"<<endl;**

**// for (int i=0;i<10;i++)**

**// {**

**// cin >>array[i];**

**// }**

**// for (int i=0;i<10;i++){**

**// for (int j=0;j<10;j++)**

**// {**

**// for (int k=0;k<10;k++)**

**// {**

**// if(array[i]+array[j]+array[k]==x){**

**// y=true;**

**// }**

**// }**

**// }**

**// }**

**// if (!y){**

**// cout<<"not found"<<endl;**

**// }**

**// else{**

**// cout<<"found";**

**// }**

**//return 0;**

**//}**

**//**

**TASK 10**

Implement Bubble Sort on an array of 6 integers.

**//int main()**

**//{**

**// int array[6];**

**// cout<<"Array of 6:"<<endl;**

**// for(int i=0;i<6;i++)**

**// {**

**// cin>>array[i];**

**// }**

**// for(int j=0;j<=6;j++)**

**// {**

**// for(int k=0;k<4;k++){**

**// if(array[k]>array[k+1])**

**// {**

**// int temp;**

**// temp=array[k];**

**// array[k]=array[k+1];**

**// array[k+1]=temp;**

**// }**

**// }**

**// }**

**// cout<<"ARRAY:"<<endl;**

**// for(int x=0;x<6;x++)**

**// {**

**// cout<<array[x]<<endl;**

**// }**

**//}**