***ASSIGNMENT-1***

**Ans-1**

#include <iostream>

using namespace std;

int main()

{

int a = 5, b = 10, temp;

cout << "Before swapping." << endl;

cout << "a = " << a << ", b = " << b << endl;

temp = a;

a = b;

b = temp;

cout << "\nAfter swapping." << endl;

cout << "a = " << a << ", b = " << b << endl;

return 0;

}

**Output** **:**

Before swapping.

a = 5, b = 15

After swapping.

a = 15, b = 5

**Ans-2**

#include <iostream>

using namespace std;

int main() {

float n1, n2, n3;

cout << "Enter three numbers: ";

cin >> n1 >> n2 >> n3;

if(n1 >= n2 && n1 >= n3)

cout << "Largest number: " << n1;

if(n2 >= n1 && n2 >= n3)

cout << "Largest number: " << n2;

if(n3 >= n1 && n3 >= n2)

cout << "Largest number: " << n3;

return 0;

}

**Output :**

Enter three numbers: 7

8

2

Largest number : 8

**Ans-3**

#include <iostream>

using namespace std;

int main() {

int year;

cout << "Enter a year: ";

cin >> year;

if (year % 4 == 0) {

if (year % 100 == 0) {

if (year % 400 == 0)

cout << year << " is a leap year.";

else

cout << year << " is not a leap year.";

}

else

cout << year << " is a leap year.";

}

else

cout << year << " is not a leap year.";

return 0;

}

**Output :**

Enter a year: 2014

2014 is not a leap year.

**Ans-4**

#include <iostream>

using namespace std;

int main() {

int n, t1 = 0, t2 = 1, nextTerm = 0;

cout << "Enter the number of terms: ";

cin >> n;

cout << "Fibonacci Series: ";

for (int i = 1; i <= n; ++i) {

// Prints the first two terms.

if(i == 1) {

cout << t1 << ", ";

continue;

}

if(i == 2) {

cout << t2 << ", ";

continue;

}

nextTerm = t1 + t2;

t1 = t2;

t2 = nextTerm;

cout << nextTerm << ", ";

}

return 0;

}

**Output :**

Enter the number of terms: 10

Fibonacci Series: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34

**Ans-5**

#include <iostream>

using namespace std;

int main() {

int i, n;

bool isPrime = true;

cout << "Enter a positive integer: ";

cin >> n;

// 0 and 1 are not prime numbers

if (n == 0 || n == 1) {

isPrime = false;

}

else {

for (i = 2; i <= n / 2; ++i) {

if (n % i == 0) {

isPrime = false;

break;

}

}

}

if (isPrime)

cout << n << " is a prime number";

else

cout << n << " is not a prime number";

return 0;

}

**Output :**

Enter a positive integer: 29

29 is a prime number.

**Ans-6**

#include <iostream>

using namespace std;

int main()

{

int space, rows;

cout <<"Enter number of rows: ";

cin >> rows;

for(int i = 1, k = 0; i <= rows; ++i, k = 0)

{

for(space = 1; space <= rows-i; ++space)

{

cout <<" ";

}

while(k != 2\*i-1)

{

cout << "\* ";

++k;

}

cout << endl;

}

return 0;

}

**Ans-7**

#include <iostream>

using namespace std;

int main(){

int n, num[50], largest, second;

cout<<"Enter number of elements: ";

cin>>n;

for(int i=0; i<n; i++){

cout<<"Enter Array Element"<<(i+1)<<": ";

cin>>num[i];

}

/\* Here we are comparing first two elements of the

\* array, and storing the largest one in the variable

\* "largest" and the other one to "second" variable.

\*/

if(num[0]<num[1]){

largest = num[1];

second = num[0];

}

else{

largest = num[0];

second = num[1];

}

for (int i = 2; i< n ; i ++) {

/\* If the current array element is greater than largest

\* then the largest is copied to "second" and the element

\* is copied to the "largest" variable.

\*/

if (num[i] > largest) {

second = largest;

largest = num[i];

}

/\* If current array element is less than largest but greater

\* then second largest ("second" variable) then copy the

\* element to "second"

\*/

else if (num[i] > second && num[i] != largest) {

second = num[i];

}

}

cout<<"Second Largest Element in array is: "<<second;

return 0;

}

**Output:**

Enter number of elements: 5

Enter Array Element1: 12

Enter Array Element2: 31

Enter Array Element3: 9

Enter Array Element4: 2

Enter Array Element5: 3

Second Largest Element in array is: 12

**Ans-8**

// C++ program to rotate an array by

// d elements

#include <bits/stdc++.h>

using namespace std;

/\*Function to left Rotate arr[] of

size n by 1\*/

void leftRotatebyOne(int arr[], int n)

{

int temp = arr[0], i;

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

arr[i] = arr[i + 1];

arr[n-1] = temp;

}

/\*Function to left rotate arr[] of size n by d\*/

void leftRotate(int arr[], int d, int n)

{

for (int i = 0; i < d; i++)

leftRotatebyOne(arr, n);

}

/\* utility function to print an array \*/

void printArray(int arr[], int n)

{

for (int i = 0; i < n; i++)

cout << arr[i] << " ";

}

/\* Driver program to test above functions \*/

int main()

{

int arr[] = { 1, 2, 3, 4, 5, 6, 7 };

int n = sizeof(arr) / sizeof(arr[0]);

// Function calling

leftRotate(arr, 2, n);

printArray(arr, n);

return 0;

}

**Output :**

3 4 5 6 7 1 2

**Ans-9**

#include <map>

#include <set>

#include <list>

#include <cmath>

#include <ctime>

#include <deque>

#include <queue>

#include <stack>

#include <string>

#include <bitset>

#include <cstdio>

#include <limits>

#include <vector>

#include <climits>

#include <cstring>

#include <cstdlib>

#include <fstream>

#include <numeric>

#include <sstream>

#include <iostream>

#include <algorithm>

#include <unordered\_map>

using namespace std;

int main(){

int n;

cin >> n;

for(int a0 = 0; a0 < n; a0++){

int grade;

cin >> grade;

if (grade < 38) {

cout << grade << "\n";

continue;

}

int rem = grade % 5;

if (5 - rem < 3)

grade += 5 - rem;

cout << grade << "\n";

}

return 0;

}

**Ans-10**

// CPP program to convert given sentence

/// to camel case.

#include <bits/stdc++.h>

using namespace std;

// Function to remove spaces and convert

// into camel case

string convert(string s)

{

int n = s.length();

int res\_ind = 0;

for (int i = 0; i < n; i++) {

// check for spaces in the sentence

if (s[i] == ' ') {

// conversion into upper case

s[i + 1] = toupper(s[i + 1]);

continue;

}

// If not space, copy character

else

s[res\_ind++] = s[i];

}

// return string to main

return s.substr(0, res\_ind);

}

// Driver program

int main()

{

string str = "Hii Guys, My name is V";

cout << convert(str);

return 0;

}

**Output :**

HiiGuys,MynameisV