DSA BOOTCAMP ASSIGNMENT

Q1. Write a program to Swap to two numbers.

Q2. Write a program to find the largest number among three numbers entered

by the user.

Q3. Write a program to check whether a year entered by a user is Leap year

or not.

Q4. Write a program to display Fibonacci Series upto nth term. (Using loops)

Q5. Write a program to check whether a number is Prime or Not.

Q6. Print this pattern using loops

For n=5

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Q7.Write a program that takes n elements from the user and displays the

second largest element of an array.

Q8. <https://www.hackerrank.com/challenges/array-left-rotation/problem>

Q9. <https://www.hackerrank.com/challenges/grading/problem>

Q10. <https://www.hackerrank.com/challenges/camelcase/problem>

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;

}

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;

}

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;

}

4.  #include<iostream>

    using namespace std;

    int main()

    {

    int limit, first=0, second=1, next, num;

    cout <<“Enter the limit of Fibonacci series”<<endl;

    cin >> num;

    cout << “First “<<num<<” terms of Fibonacci series are :- “<<endl;

    for(int p=0;p<num;p++)

    {

        if (p <= 1)

            next = p;

        else

        {

            next = first + second;

            first = second;

            second = next;

        }

        cout<<next<<” “;

    }

    return 0;

    }

5. #include <iostream>

using namespace std;

int main() {

int i, n;

bool isPrime = true;

cout << "Enter a positive integer: ";

cin >> n;

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;

}

6

#include <iostream>

using namespace std;

void pypart(int n)

{

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

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

cout << "\* ";

}

cout << endl;

}

}

int main()

{

int n = 5;

pypart(n);

return 0;

}

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];

}

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 (num[i] > largest) {

second = largest;

largest = num[i];

}

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

second = num[i];

}

}

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

return 0;

}

8. #include <iostream>

#include <vector>

std::vector<int> left\_rotation(std::vector<int>& arr, int rotations)

{

std::vector<int> rotated\_array;

for (std::size\_t i = rotations; i < arr.size(); ++i)

{

rotated\_array.push\_back(arr[i]);

}

for (std::size\_t i = 0; i < rotations; ++i)

{

rotated\_array.push\_back(arr[i]);

}

return rotated\_array;

}

int main()

{

int num\_elements, num\_left\_rotations;

std::cin >> num\_elements;

std::cin >> num\_left\_rotations;

9.

|  |
| --- |
| #include <bits/stdc++.h>  using namespace std;  void solution() {  int n, x;  cin>>n;  for(int i=0; i<n; i++){  cin>>x;  if(x>=38 and x%5>=3){  while(x%5!=0){  x++;  }  }  cout<<x<<endl;  }  }  int main () {  solution();  return 0;  }  10.  #include <bits/stdc++.h>  #include<assert.h>  using namespace std;  void solution() {  string str;  cin >> str;  int len = str.size();  int ans = 1;  for(int i = 0; i < len; i++){  if(str[i] >= 'A' && str[i] <= 'Z') {  ans++;  }  }  cout<<ans<<endl;  }  int main() {  solution();  return 0;  } |
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