Name:- S.V. Sumanth kumar Reddy

4)

```
#include <bits/stdc++.h>
using namespace std;
//fill Prime function fills primes from 2 to sqrt of
  high in. chprime (vector) array.
 void. fill primes (vector<int> & prime, int high)
 {.
   bool ck [high + 1];
   memset (ck, true, sizeof (ck));
     ck[1] = false;
     ck[0] = false;
 for (int i = 2; (i * i) <= high;, i++) {.
   if (ck[i] == true) {.
 for. (int j = i * j <= high ; j = j + i) {.
     ck[j] = false;
   }
  }
 }.
for (int i = 2; i*j <= high; i++) {.
  if (ck[i] == true) {.
 Prime. push_back (i);
 }
 }
 }.
//in segment sieve we check for Prime from range.
 [low, high]
void segmented sievie (int low, int high) {
```

```
bool Prime [high-low+1]
 memset (prime, true, size of (prime));
 vector <int> chprime.
fill primes. ((chPrime, high);
 //chprimes has prime in range [2, sqrt (n)].
// we take primes. for 2 to sqrt[n] because the multiple of all
 primes. below high are marked by these
// are marked by primes in range [2, sqrt (49)].
 for (int i : chprime) {.
  int lower= (low/i);
 if (lower <= 1) {.
     lower = i+i; }.
else if (low%i)+i;
}
else {.
 lower = (lower * i); }.
for (int j= lower. j <= high; j = j+i) {.
 Prime [j- low ]= false; }.
}.
for (int i =low; i<=high; i++) {.
 if (prime[i-low] ==true) {.
   cout << (i) << "   ";
}
}
}.
int main ()
{.
// low should be greater than or equal to 6.
   int low = 6;
int high = 24;
cout <<"primes in range" << low <<" to " high <<" are \n";
   segmented sieve (low, high);
}
```

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```
5) #include <bits|stdc++.h>
using namespace std;
void toggle Chars(Char str[ ])
{.
for (int i=0; str[i] != '\0'; i++)
{.
 if (str[i]>='A' &&. str[i]<='z')
  str[i]=str[i] + 'a' - 'A';
 else if (str[i]>='a' &&.str[i]<='z')
   Str[i]= str(i) + 'A' ='a';
 }
}.
int main ( )
{.
Char str [ ]= "PRoGraMMer";
toggle Chars(str);
Cout<<."string after toggle"<<endl;
Cout <<. str<<endl;
return 0;
}
```

```
1) #include <bits (stdc++.h>
Using name space std;
void Find first and last (int arr[ ], int n, int x)
{.
int First=-1, last = -1
for (int i=0; i<n ; i++) {.
  if (x != arr[i])
    continue;
if (first==-1)
```

```
  laast = i;
 }.
 if(first ! = -1)
 Cout<<"first occurence = "<<first
        <<"\n laast occurence  : "<<laast;
 else
 Cout<< "Not found";

 }
```

```
1) #include <iostream>
 using naame spaace std;
 int main()
 {.
   int n, i, j, k;
Coot << "entar the nomber:"<<endl;
  cin>>n;
 for (i=0; i<n; i++)
 {.for (j=0; j<n-i ;j++)
  {.
    coot<<"  ";
  }
 For (k=0; k<i; k++)
 {
 cout<<" *";
 }
 cout*<<""<<endl;
 }
}
```