(10) Print all prime number from 2 to N

```
bool checkPrime(int n){
    bool prime = true;
    if(n==0 || n==1){
        prime = false;
    }
    for(int i=2; i<=n-1; i++){
        if(n%i==0){
            prime = false;
            break;
        }
    }
    return prime;
}
int main(){
 cout<<"Enter the num:"; cin>>num;
 for(int i=1; i<=num; i++){
     bool check = checkPrime(i);
     if(check){
         cout<<i<<" ";
     }
 }
 return 0;
}
```

Output

Enter the num = 10

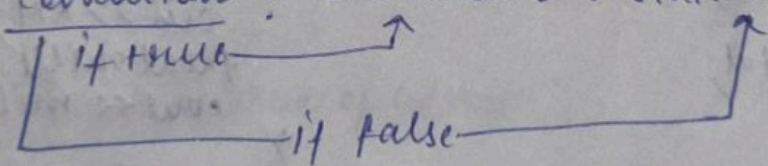
2 3 5 7

Enter the num = 20

2 3 5 7 11 13 17 19.

* Conditional operator: Also known as ternary operator

i.e condition ? statement 1 : statement 2



(1) cout<<(age>=18)? cout<<"Can Vote" : cout<<"Can't Vote";

(2) (marks>=90)? cout<<"Grade A" : cout<<"Grade B";

→ It is the short hand notation of if-else statement and considered to be same.

* Problem solving starts

① Print all digits in an integer.

```
void printdigits (int integer) {
    while (integer>0) {
        int num = integer%10;
        cout << num << " ";
        integer /=10;
    }
}
int main() {
    int integer;
    cout << "Enter the integer: ";
    cin >> integer;
    printdigits (integer);
    return 0;
}
```

Output: Enter the integer: 123
3 2 1

② Create a number using digits

```
int digits[] = {1,2,3,4};
int num=0;
for(int i=0; i<4; i++) {
    num = num*10 + digits[i];
}
cout << num;
return 0;
}
```

Output 1234

③ Print number of set bits

```
int noofsetsBits (int n) {
    int total=0;
    while (n>0) {
        if (n&1) {
            total++;
        }
        n=n>>1;
    }
    return total;
}
int main() {
    int num;
    cout << "Enter the number;
    cin >> num;
    int total = noofsetsBits (num);
    cout << "The total no. of setsBits are: " << to
        tal;
    return 0;
}
```

Output: Enter the number: 10
The total no. of set Bits are: 2

④ Convert distance in KM to miles

```
float KMTOmiles(float km) {
    float miles;
    miles = (1/1.609)*km;
    return miles;
}
int main() {
    float KM;
    cout << "enter KM:";
    cin >> KM;
    float miles = KMTOmiles (KM);
    cout << miles;
}
```

Output
enter KM: 32
19.8881 miles

* Problem solving Homework

① Reverse a Integer

```
int reverseNO(int num){
    int reverse=0;
    for(int i=num; i>0; i/=10){
        int rem = i%10;
        reverse = reverse*10 + rem;
    }
    return reverse;
}
int main(){
    int n;
    cout<<"enter the no want to do reverse:"; cin>>n;
    int reverse = reverseNO(n);
    cout<<"The reverse of "<<n<<" is "<<reverse;
    return 0;
}
```

Output

Enter the no _____ = 123
The reverse of 123 is 321

② Convert celsius to fahrenheit

```
float celsiusToFahren(int celsius){
    float C = celsius;
    float F;
    F = C*9/5+32;
    return F;
}
int main(){
    float celsius;
    cout<<" Enter the value of celsius:";
    cin>>celsius;
    float fahrenheit = celsiusToFahren(celsius);
    cout<<"The"<<celsius<<"C is "<<fahrenheit<<"F";
    return 0;
}
```

Output

Enter the value of celsius : 34.7
The 34.7C is 93.2F