Lab Report Writing in Latex- Bangladesh version

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Experiment Number: 1

Experiment Name: Write the name of the experiment.

Objective: The objective of this program.

Software:

Theory:

Algorithm:

1. Step 1:

2. Step 2:

3. Step 3:

4. Step 4:

5. Step 5:

6. Step 6:

Source Code:

```cpp
1
2  #include<bits/stdc++.h>
3  using namespace std;
4
5  string validate(string &str){
6      string valid="";
7      for(int i=0; i<str.size(); i++){
8          if(str[i]>='a' && str[i]<='z') valid+=str[i];
9          else if(str[i]>='A' && str[i]<='Z') valid+=(str[i]+32);
10         else continue;
11     }
12     return valid;
13 }
14
15 string encrypt(string &plaintext, int key){
16     string ciphertext = "";
17     for(int i=0; i<plaintext.size(); i++){
```

```cpp
18              ciphertext+=((plaintext[i]-'a' + key)%26)+'a';
19          }
20          return ciphertext;
21     }
22
23     string Capital(string str){
24          for(int i=0; i<str.size(); i++){
25              str[i] = (char)(str[i]-32);
26          }
27          return str;
28     }
29
30     string decrypt(string &ciphertext, int key){
31          string plaintext = "";
32          for(int i=0; i<ciphertext.size(); i++){
33              plaintext+=((ciphertext[i]-'a' - key+26)%26)+'a';
34          }
35          return plaintext;
36     }
37
38     int main(){
39          string plaintext, ciphertext, resultplaintext;
40          int key;
41          cout<<"Input your plaintext String: ";
42          getline(cin, plaintext);
43          cout<<"Input your key: ";
44          cin>>key;
45
46          plaintext = validate(plaintext);
47          cout<<endl<<"Your plaintext Here: "<<plaintext<<endl;
48
49          ciphertext = encrypt(plaintext, key);
50          cout<<"Encrypted Result: "<<Capital(ciphertext)<<endl;
51
52          resultplaintext = decrypt(ciphertext, key);
53          cout<<"Decrypted Result: "<<resultplaintext<<endl;
54     }
```

Input and Output: Add input and output here as a screen shot.

Discussion: Write discussion properly.