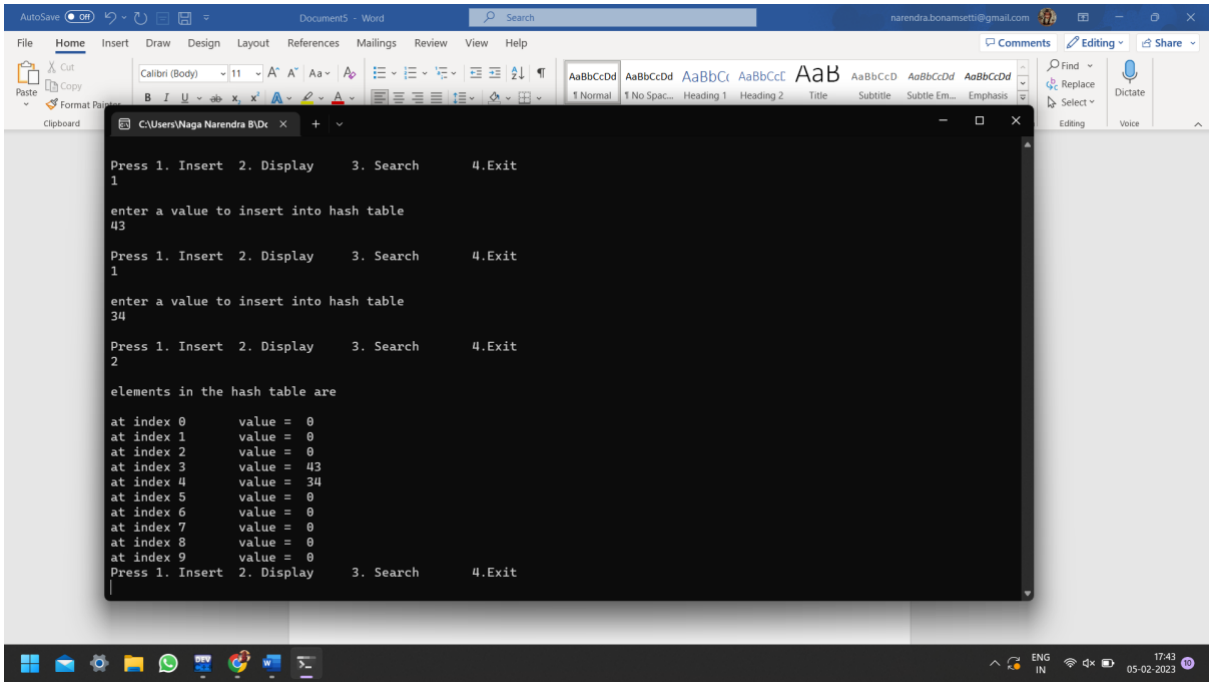
17.hashing :-

```
#include <stdio.h>
#include<stdlib.h>
#define TABLE_SIZE 10

int h[TABLE_SIZE]={NULL};

void insert()
{

 int key,index,i,flag=0,hkey;
 printf("\nenter a value to insert into hash table\n");
 scanf("%d",&key);
 hkey=key%TABLE_SIZE;
 for(i=0;i<TABLE_SIZE;i++)
   {

    index=(hkey+i)%TABLE_SIZE;

    if(h[index] == NULL)
    {
       h[index]=key;
        break;
    }

   }

   if(i == TABLE_SIZE)

    printf("\nelement cannot be inserted\n");
}
```

```
void search()
{

 int key,index,i,flag=0,hkey;
 printf("\nenter search element\n");
 scanf("%d",&key);
 hkey=key%TABLE_SIZE;
 for(i=0;i<TABLE_SIZE; i++)
 {
   index=(hkey+i)%TABLE_SIZE;
   if(h[index]==key)
   {
     printf("value is found at index %d",index);
     break;
   }
 }
 if(i == TABLE_SIZE)
   printf("\n value is not found\n");
}
void display()
{

  int i;

  printf("\nelements in the hash table are \n");

  for(i=0;i< TABLE_SIZE; i++)

  printf("\nat index %d \t value =  %d",i,h[i]);

}
```

```
main()
{
   int opt,i;
   while(1)
   {
      printf("\nPress 1. Insert\t 2. Display \t3. Search \t4.Exit \n");
      scanf("%d",&opt);
      switch(opt)
      {
         case 1:
            insert();
            break;
         case 2:
            display();
            break;
         case 3:
            search();
            break;
         case 4:exit(0);
      }
   }
}
```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Press 1. Insert 2. Display 3. Search 4.Exit
1
enter a value to insert into hash table
43
Press 1. Insert 2. Display 3. Search 4.Exit
1
enter a value to insert into hash table
34
Press 1. Insert 2. Display 3. Search 4.Exit
2
elements in the hash table are
at index 0 value = 0
at index 1 value = 0
at index 2 value = 0
at index 3 value = 43
at index 4 value = 34
at index 5 value = 0
at index 6 value = 0
at index 7 value = 0
at index 8 value = 0
at index 9 value = 0
Press 1. Insert 2. Display 3. Search 4.Exit
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05-02-2023