North Western University Khulna

Lab Report

Team Name: NWU_SHADOW_ERRORS

Team Members

ID: 20221092010

20221100010

20221175010

Submitted To:

M. Raihan

Senior Lecturer at North Western University

Khulna.

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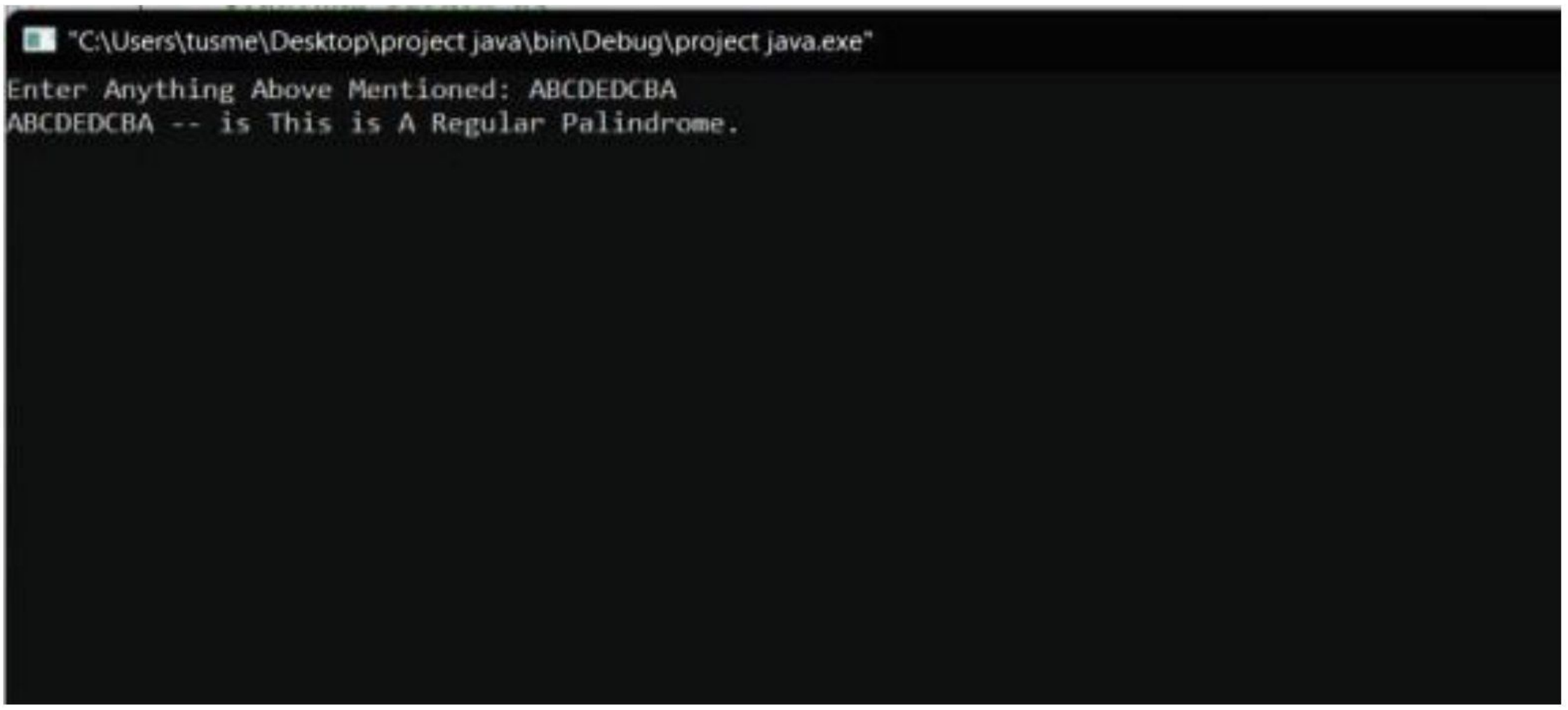
main() : int

main.c | main.c

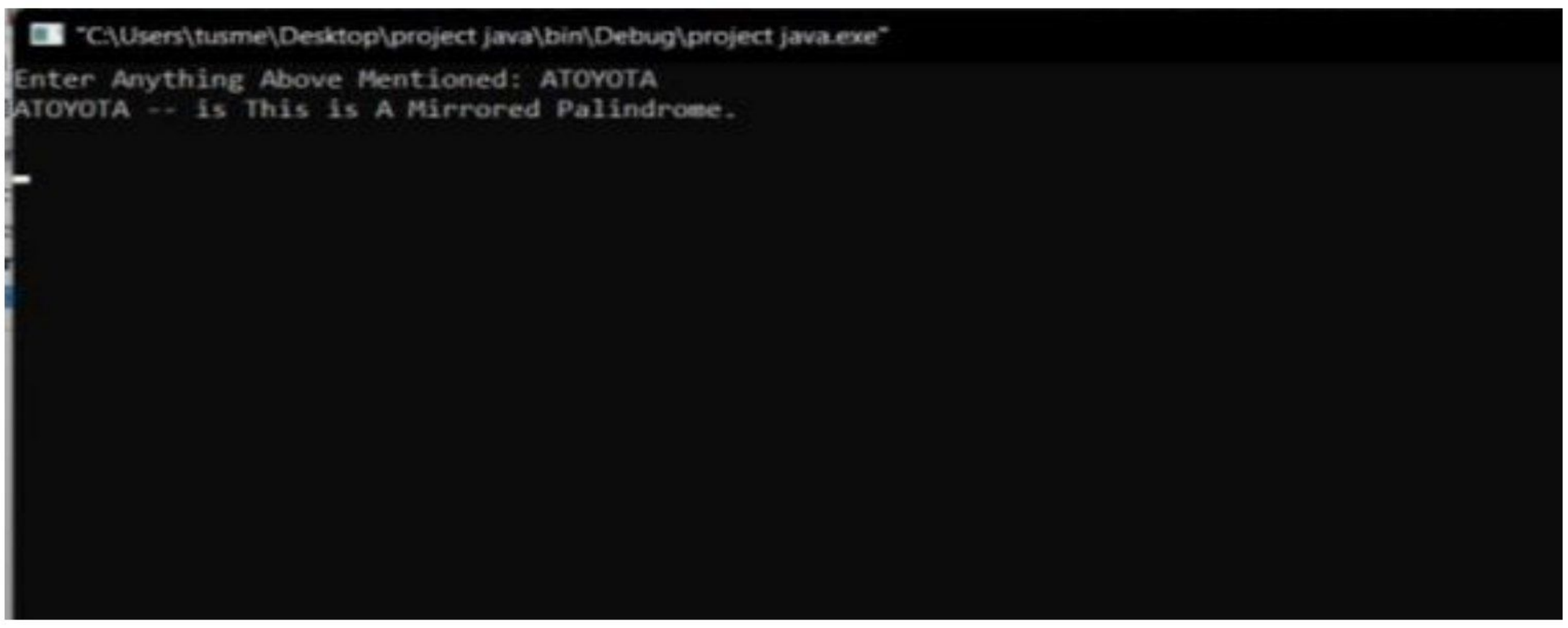
```c
#include <stdio.h>
#include <string.h>
int main() {
    char s[100];
    printf("Enter Anything Above Mentioned: ");
    while(scanf("%s", s) == 1) {
        int len = strlen(s);
        int i, j;
        char a[] = "A   3  HIL JM O   2TUVWXY5";
        char b[] = "01SE Z  8 ";
        int var1 = 0, reg1 = 0;
        for(i = 0, j = len-1; i <= j; i++, j--) {
            if(s[i] != s[j])
                var1 = 1;
            if(s[i] >= 'A' && s[i] <= 'Z') {
                if(s[j] != a[s[i]-'A'])
                    reg1 = 1;
            } else {
                if(s[j] != b[s[i]-'0'])
                    reg1 = 1;
            }
        }
        printf("%s -- is ", s);
        if(var1) {
            if(reg1)
                puts("Not Palindrome.");
            else
                puts("This is A Mirrored String.");
        } else {
            if(reg1)
                puts("This is A Regular Palindrome.");
            else
                puts("This is A Mirrored Palindrome.");
        }
        puts("");
    }
    return 0;
}
```

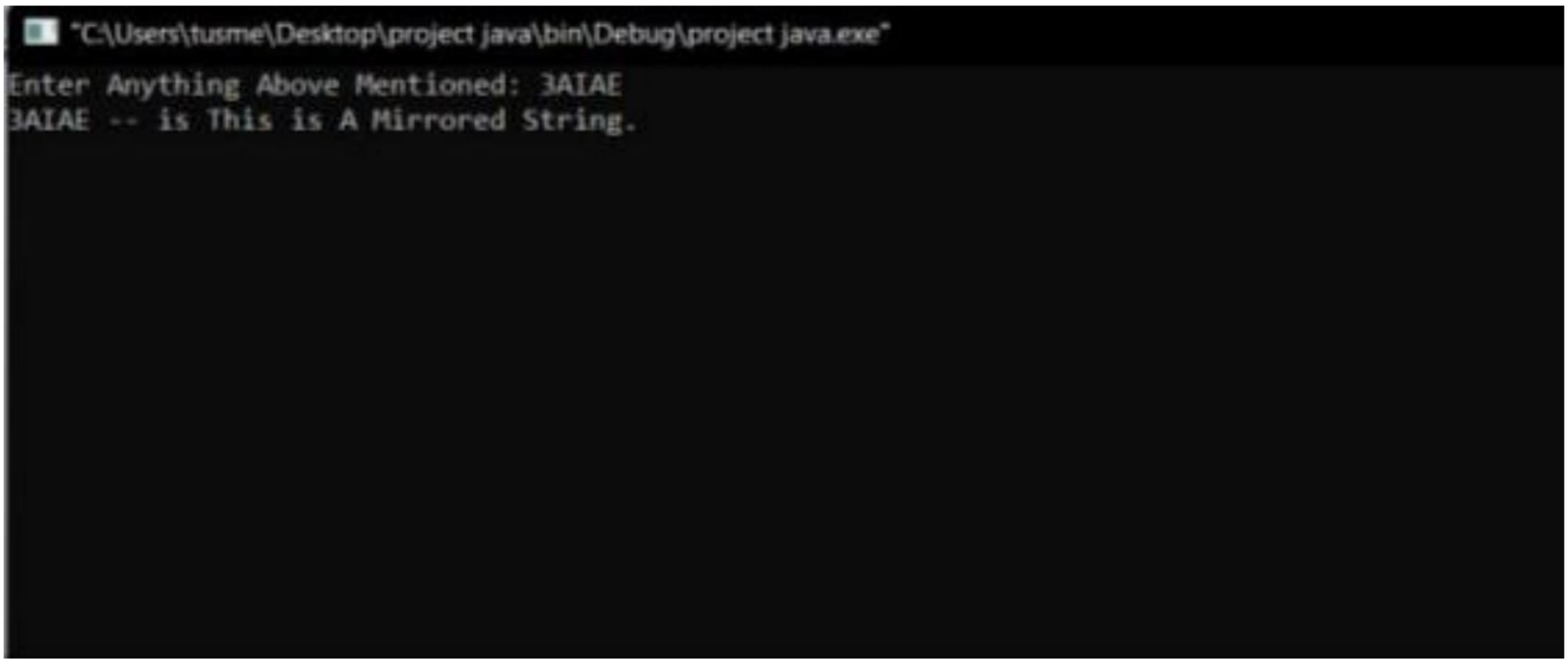
LOCKS\Lab_Report_2\main.c

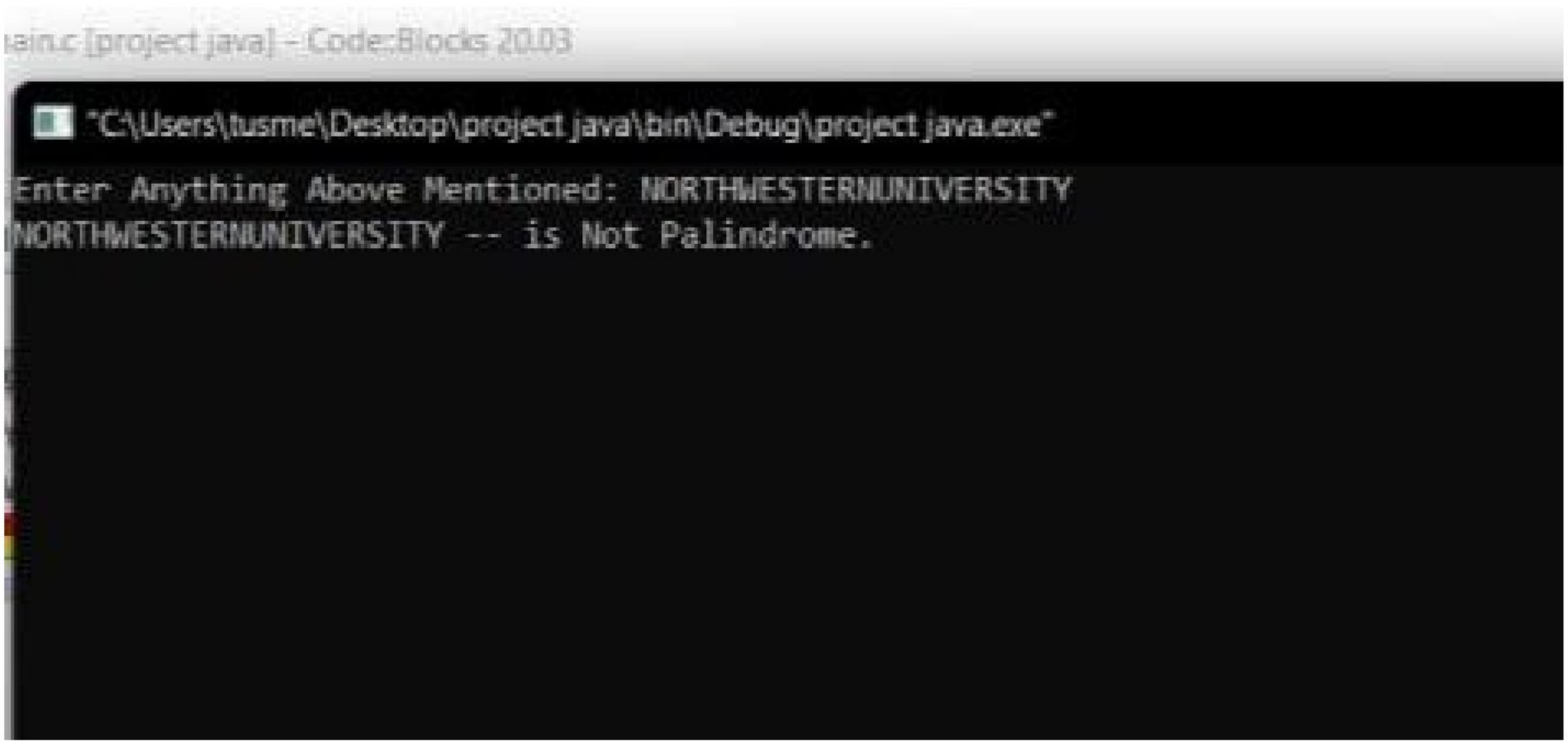
OUTPUTS

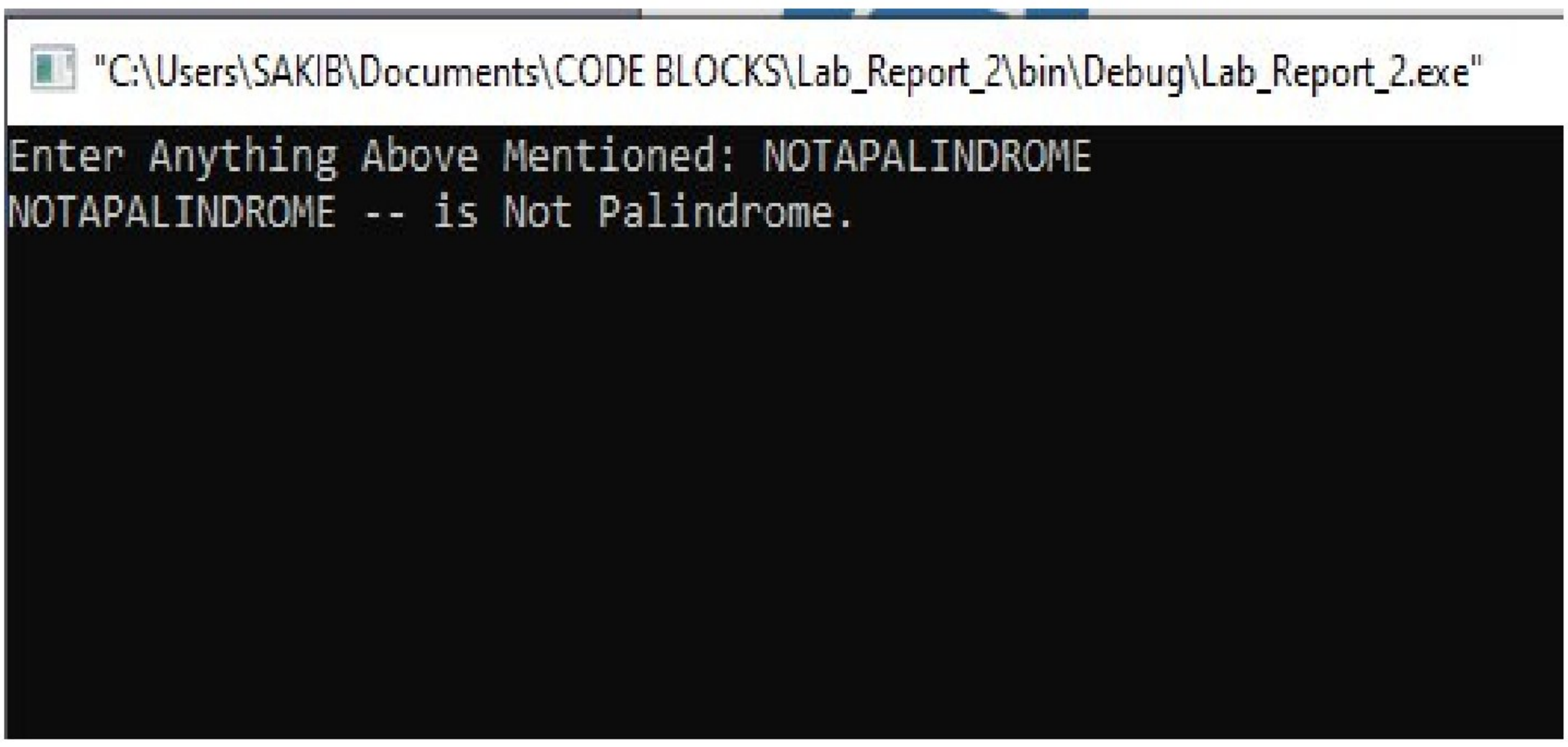

"C:\Users\tusme\Desktop\project java\bin\Debug\project java.exe"
Enter Anything Above Mentioned: ABCDEDCBA
ABCDEDCBA -- is This is A Regular Palindrome.


"C:\Users\tusme\Desktop\project java\bin\Debug\project java.exe"
Enter Anything Above Mentioned: ISPAHANI
ISPAHANI -- is Not Palindrome.


"C:\Users\tusme\Desktop\project java\bin\Debug\project java.exe"
Enter Anything Above Mentioned: ATOYOTA
ATOYOTA -- is This is A Mirrored Palindrome.


"C:\Users\tusme\Desktop\project java\bin\Debug\project java.exe"
Enter Anything Above Mentioned: 3AIAE
3AIAE -- is This is A Mirrored String.


"C:\Users\tusme\Desktop\project java\bin\Debug\project java.exe"
Enter Anything Above Mentioned: NORTHWESTERNUNIVERSITY
NORTHWESTERNUNIVERSITY -- is Not Palindrome.


"C:\Users\SAKIB\Documents\CODE BLOCKS\Lab_Report_2\bin\Debug\Lab_Report_2.exe"
Enter Anything Above Mentioned: NOTAPALINDROME
NOTAPALINDROME -- is Not Palindrome.

```
# include <stdio.h>
# include <string.h>
int main (){
    Char s[100];
    Printf(" Enter Anything Above Mentioned: ");
    while (scanf ("%s", s) == 1) {
        int len = strlen(s);
int i, j;
Char a[] = " A    3   HIL  JM  O   2TUVWXY5";
Char b[] = " 01SE  Z   8";
int var1 = 0; reg1 = 0;
for (i=0, j= len-1; i<=j; i++, j--){
    if (s[i] != s[j])
    var1 = 1;
if (s[i] >= 'A' && s[i] <= 'Z') {
    if (s[j] != a[s[i] - 'A'])
    reg1 = 1;
}
else {
    if(s[j] != b[s[i] - '0'])
    reg1 = 1;
}
}
Printf("%s -- is ", s);
if (var1) {
```

```
if (reg1)
    Puts (" Not Palindrome." );

else
    Puts ( " This is A Mirrored String." );

}
else {
   if (reg1)
       Puts ("This is A Regular Palindrome ." );
      else
      Puts ( "This is A Mirrored Palindrome." );
      {
      Puts ("  " );

   } return 0;

}
```

Algorithm :

Above program is for to check a given string is palindrome or not.

All logic is written in the main() method.

In main() method we have 4 integer variables "i, j, neg and var". And one char variable "str" which is an array of character.

Palindrome of string means we can read it either from left to right or right to left it appears same.

So check it we are comparing first char with last char and second char with second last char using "for loop" until we reach at middle.

If both numbers are same, print "palindrome number".

Else print "not palindrome number".

*Pseudocode:

1. Start
2. Input: Read number to check as len
3. Take int i, j
4. Take int var1 = 0, reg1 = 0
5. for (i = 0, j = len-1; i <= j; i++, j--) {

```
if (S[i] != S[j])
var1 = 1;
if (S[i] >= 'A' && S[i] <= 'Z') {
if (S[j] != a[S[i] - 'A'])
   reg1 = 1;
} else {
   if (S[j] != b[S[i] - 'a'])
      reg1 = 1;
   }
      }
```

6. END Loop
7. if (reg1)
   Puts ("Not Palindrome");
   else
   Puts("This is A Mirrored String");
8. END if
9. END

Contribution of code:

Reajul Islam Sajol

Time: About 1.30 hour

Contribution of pseudocode:

Sakibuzzaman Emon

Time: About 1 hour

Contribution of algorithm:

Tasnuva Sultana Tusne

Time: About 45 minutes

Me and my team members solve the problem together. First, I read the problem and my team members already write the algorithm and pseudocode. So, it was easy for me to write the code. Then, I write the solution of the problem in C programming.