PF-LAB-9-ASSIGNMENT

PROBLEM:1

```c
#include <stdio.h>
int product(int a, int b) {
    return a*b;
}
int main() {
    int result = product(4,8);
    printf("%d", result);
    return result;
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>gcc 1.c -o 1.exe

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>1.exe
32
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```

PROBLEM:2

```c
#include <stdio.h>
char* numCheck(int a) {
    if(a % 2 == 0) {
        return "Even";
    } else  {
        return "Odd";
    }
}
void main() {
    int b = 19;
    char* result = numCheck(b);
    printf("%d is %s",  b, result);
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>2.exe
Enter any number: 7
7 is Odd
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>2.exe
Enter any number: 6
6 is Even
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```

PROBLEM:3

3.c > main()

```c
#include <stdio.h>
#include <string.h>
void main() {
    char dest[20];
    char src[20];
    int n;
    printf("Enter your destination string: \n");
    scanf("%s", dest);
    printf("Enter your source string: \n");
    scanf("%s", src);
    printf("Enter the number of characters you want to append: \n");
    scanf("%d", &n);
    strncat(dest, src, n);
    printf("Resulting destination string:\n%s", dest);
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>3.exe
Enter your destination string:
world
Enter your source string:
wide
Enter the number of characters you want to append:
2
Resulting destination string:
worldwi
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```

PROBLEM:4

```c
#include <stdio.h>
#include <string.h>
void main() {
    char words[5][50]={"apple", "banana", "cherry", "dragon fruit","elderberry"};
    char inp[50];
    int found=0;
    printf("Enter a word to check: \n");
    scanf("%s", inp);
    for(int i=0; i<5; i++) {
        if(strcmp(words[i], inp) == 0) {
            found=1;
            break;
        }
    }
    if(found) {
        printf("Found\n");
    } else {
        printf("Not Found\n");
    }
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>gcc 4.c -o 4.exe

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>4.exe
Enter a word to check:
apple
Found

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>4.exe
Enter a word to check:
Apple
Not Found

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```

PROBLEM:5

```c
#include <stdio.h>
#include <string.h>
int isPalindrome(char words[]) {
    int len = strlen(words);
    for(int i=0; i < len / 2; i++) {
        if(words[i] != words[len - i - 1]) {
            return 0;
        }
    }
    return 1;
}
void main() {
    char words[5][30];
    printf("Enter 5 words:\n");
    for(int i=0; i<5; i++) {
        printf("Word#%d:", i+1);
        scanf("%s", words[i]);
    }
    for(int i=0; i<5; i++) {
        if(isPalindrome(words[i])) {
            printf("\n%s: Palindrome", words[i]);
        } else {
            printf("\n%s: Not Palindrome", words[i]);
        }
    }
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>gcc 5.c -o 5.exe

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>5.exe
Enter 5 words:
Word#1:mam
Word#2:animal
Word#3:madam
Word#4:racecar
Word#5:plant

mam: Palindrome
animal: Not Palindrome
madam: Palindrome
racecar: Palindrome
plant: Not Palindrome
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```

PROBLEM:6

6.c > main()

```c
#include <stdio.h>
void swapIntegers(int *a,int *b) {
    *a = *a ^ *b;
    *b = *a ^ *b;
    *a = *a ^ *b;
}
void main() {
    int a, b;
    printf("Enter two values: \n");
    scanf("%d%d", &a, &b);
    printf("Before Swapping:\na:%d\nb:%d\n", a, b);
    swapIntegers(&a,&b);
    printf("After Swapping:\na:%d\nb:%d\n", a, b);
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>gcc 6.c -o 6.exe

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>6.exe
Enter two values:
34
43
Before Swapping:
a:34
b:43
After Swapping:
a:43
b:34

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```

PROBLEM:7

7.c > main()

```c
#include <stdio.h>
int isPrime(int num) {
    if(num==0 || num==1) {
        return 0;
    }
    for(int i=2; i <= num/2; i++) {
        if(num%i ==0) {
            return 0;
            break;
        }
    }
    return 1;
}
void main() {
    int num, found;
    printf("Enter any number: ");
    scanf("%d", &num);
    if(isPrime(num) == 1) {
        printf("%d is a Prime Number", num);
    } else {
        printf("%d is not a Prime Number", num);
    }
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>gcc 7.c -o 7.exe

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>7.exe
Enter any number: 73
73 is a Prime Number
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>7.exe
Enter any number: 72
72 is not a Prime Number
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```

PROBLEM:8

```c
#include <stdio.h>
int answer(int a,int b,char operation) {
    switch (operation) {
    case '+':
        return a + b;
        break;
    case '-':
        return a - b;
        break;
    case '*':
        return a * b;
        break;
    case '/':
        if(b != 0) {
            return a / b;
        } else {
            printf("\nError: Division by zero!\n");
            return 0;
        }
        break;
    default:
        printf("\nError: Invalid Operator!\n");
        return 0;
        break;
    }
}
void main() {
    int a, b;
    char operation;
    printf("Enter any two integers: ");
    scanf("%d%d", &a, &b);
    printf("\nEnter any arithmetic operation (+,-,*,/): ");
    scanf(" %c", &operation);
    int result = answer(a,b,operation);
```

```c
void main() {
    char operation;
    printf("Enter any two integers: ");
    scanf("%d%d", &a, &b);
    printf("\nEnter any arithmetic operation (+,-,*,/): ");
    scanf(" %c", &operation);
    int result = answer(a,b,operation);
    if(operation == '/' && b == 0) {
    } else if(operation != '+' && operation !='-' &&
              operation != '/' && operation != '*') {
    } else {
        printf("\n%d %c %d = %d", a, operation, b, result);
    }
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>gcc 8.c -o 8.exe

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>8.exe
Enter any two integers: 52
26

Enter any arithmetic operation (+,-,*,/): /

52 / 26 = 2
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>8.exe
Enter any two integers: 17
23

Enter any arithmetic operation (+,-,*,/): -

17 - 23 = -6
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```

PROBLEM:9

9.c > main()

```c
#include <stdio.h>
#include <string.h>
char*revStr(char str[]) {
    int len = strlen(str);
    for(int i=0; i <len/2; i++) {
        char temp = str[i];
        str[i] = str[len - i - 1];
        str[len - i -1]= temp;
    }
    return str;
}
void main() {
    char str[200];
    printf("Enter a String: ");
    fgets(str, sizeof(str), stdin);
    str[strcspn(str, "\n")] = '\0';
    printf("Reversed String: %s\n", revStr(str));
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>9.exe
Enter a String: what is happening?
Reversed String: ?gnineppah si tahw

D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```

PROBLEM:10

```c
#include <stdio.h>
int maxNum(int arr[], int k) {
    int max = arr[0];
    for(int i=1; i<k; i++) {
        if(arr[i] > max) {
            max = arr[i];
        }
    }
    return max;
}
int minNum(int arr[], int k) {
    int min = arr[0];
    for(int i=1; i<k; i++) {
        if(arr[i] < min) {
            min = arr[i];
        }
    }
    return min;
}
void main() {
    int k;
    printf("Enter the number of elements in the array: ");
    scanf("%d", &k);
    int arr[k];
    for(int i=0; i<k; i++) {
        printf("Enter element %d: ", i+1);
        scanf("%d", &arr[i]);
    }
    printf("\nMaximum Number in the Array: %d", maxNum(arr, k));
    printf("\nMinumum Number in the Array: %d", minNum(arr, k));
}
```

```
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>10.exe
Enter the number of elements in the array: 8
Enter element 1: 242
Enter element 2: 142
Enter element 3: 2
Enter element 4: 122
Enter element 5: 422
Enter element 6: 244
Enter element 7: 212
Enter element 8: 234

Maximum Number in the Array: 422
Minumum Number in the Array: 2
D:\MY ASSIGNMENTS\PF-LAB-ASSIGNMENT\LAB-9>
```