ASSIGNMENT

By

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Department : CSE(Cyber Security)

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(Permanently Affiliated to the University of Jammu, Accredited by NAAC with "A" Grade)

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Q1.Write a program to Select The Best Product From The Offers

Description:

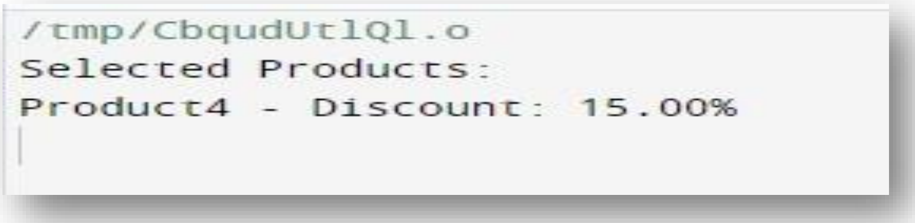
In a shoping centre, there 'N' number of items with different discounts offering. Mr. Ravi as the customer having his own openion that -high discount products saves money but low in quality and

- low discount products gives more quality but expenditure is more.

So, he decided that not buy products with too high discounted or too low discounted products. So he need the products of his own specified tow discounted products (Both Exclusive) Suggest to Mr. Ravi from 'N' products lists of his matching given discounted products?

ANS.

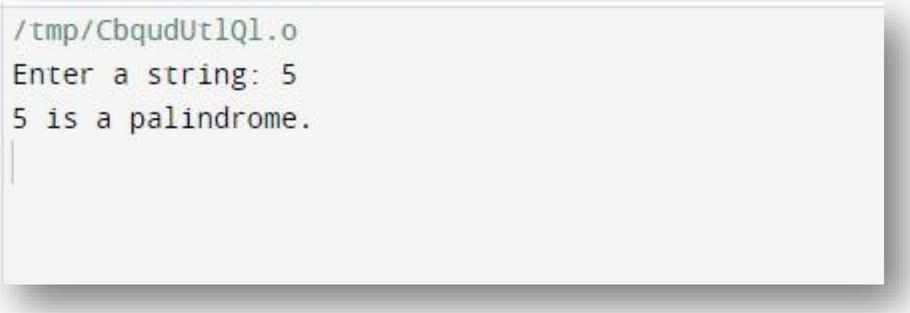
```
#include <stdio.h>

struct Product {
char name[50];
float discount;
};

void selectBestProducts(struct Product products[], int n, float lowDiscount, float
highDiscount) {
printf("Selected Products:\n");

for (int i = 0; i < n; i++) {
if ((products[i].discount > lowDiscount && products[i].discount < highDiscount) ||
(products[i].discount > lowDiscount && products[i].discount < highDiscount)) {
printf("%s - Discount: %.2f%%\n", products[i].name, products[i].discount);
}
}
}

int main() {
// Sample product list with 'name' and 'discount' attributes
struct Product products[] = {
{"Product1", 10.0},
{"Product2", 25.0},
{"Product3", 5.0},
{"Product4", 15.0},
// Add more products as needed
};

int n = sizeof(products) / sizeof(products[0]);

// Mr. Ravi's specified discount range
float lowDiscount = 10.0;
float highDiscount = 20.0;

// Selecting the best products based on Mr. Ravi's preferences
selectBestProducts(products, n, lowDiscount, highDiscount);

return 0;
}
```



```
/tmp/CbqudUtlQl.o
Selected Products:
Product4 - Discount: 15.00%
```

Q.2 Write a C program to check if a string is a palindrome ?

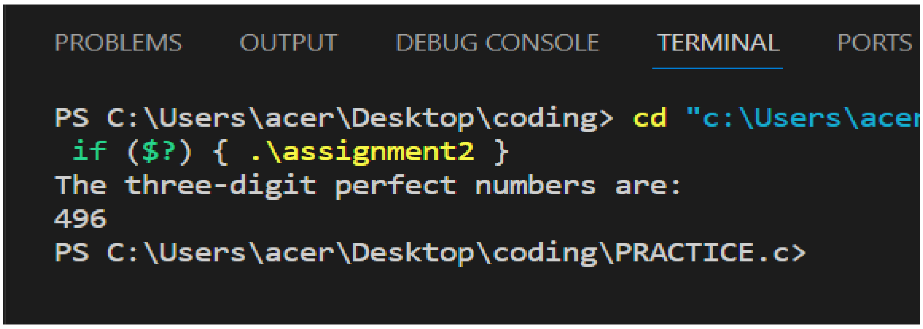
```
ANS. #include <stdio.h>
#include <string.h>

// Function to check if a string is a palindrome
int isPalindrome(char str[]) {
int left = 0;
int right = strlen(str) - 1;

while (left < right) {
if (str[left] != str[right]) {
return 0; // Not a palindrome
}
left++;
right--;
}

return 1; // Palindrome
}

int main() {
char input[100];

printf("Enter a string: ");
scanf("%s", input);
if (isPalindrome(input)) {
printf("%s is a palindrome.\n", input);
} else {
printf("%s is not a palindrome.\n", input);
}

return 0;
}
```



```
/tmp/CbqudUtlQl.o
Enter a string: 5
5 is a palindrome.
```

1. Write the program for print all three digit perfect number.

```
#include <stdio.h>

int is_perfect(int num) {
    int sum = 1;
    for(int i = 2; i * i <= num; i++) {
        if(num % i == 0) {
            if(i * i != num)
                sum = sum + i + num / i;
            else
                sum = sum + i;
        }
    }
    return sum == num && num != 1;
}

int main() {
    int count = 0;
    printf("The three-digit perfect numbers are:\n");
    for(int num = 100; num <= 999; num++) {
        if(is_perfect(num)) {
            printf("%d\n", num);
            count++;
        }
    }
    if(count == 0) {
        printf("No perfect numbers found.\n");
    }
    return 0;
}
```



```
PS C:\Users\acer\Desktop\coding> cd "c:\Users\acer
 if ($?) { .\assignment2 }
The three-digit perfect numbers are:
496
PS C:\Users\acer\Desktop\coding\PRACTICE.c>
```