20CYS181 – Computer Programming Lab
Lab Evaluation 1

Answer

1.

<u>Source Code:</u>

```c
#include <stdio.h>
int take(int remain, int taken){
    remain = remain - taken;
    return (remain);
}


int put(int remain, int put_away){
    remain = remain + put_away;
    return (remain);
}


int refer(int remain, int number){
    remain = remain + (50*number);
    return (remain);
}



int main()
{
    char chr, buffer;
    int bal, check_w, check_d, check_y, with, dep, num;
```

```c
printf("Enter your account balance (>500): ");

scanf("%d", &bal);

scanf("%c", &buffer);

while (1)

{

printf("\n'W' or 'w' for withdrawal");

printf("\n'D' or 'd' for deposit");

printf("\n'Y' or 'y' for refering your friend");

printf("\n'Q' or 'q' for quiting the process\n");

printf("\nEnter your operation: ");

scanf("%c", &chr);


switch(chr)

{

case 'W':

case 'w':

    {

    printf("\nEnter the amount to be withdrawn: ");

    scanf("%d", &with);

    if (bal>with)

    {

    bal = take(bal, with);

    printf("\nAmount withdrawn successfully");

    printf("\nThe balance in your account is %d", bal);

    }

    else

    printf("\nNot sufficient balance...");

    break;

    }
```

```c
        case 'D':
        case 'd':
            {
            printf("\nEnter the amount to be deposited: ");
            scanf("%d", &dep);
            check_d = put(bal, dep);
            printf("\nAmount deposited successfully");
            printf("\nThe balance in your account is %d", check_d);
            break;
            }
        case 'Y':
        case 'y':
            {
            printf("\nHow many friends you want to refer: ");
            scanf("%d", &num);
            check_y = refer(bal, num);
            printf("\nThe balance in your account is %d", check_y);
            break;
            }
        case 'Q':
        case 'q':
             return 0;
            break;
        default:
            printf("\nEnter a valid alphabet for operation");
        }
        }
    return 0;
}
```

Test Case 1

```
Enter your account balance (>500): 5000

'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation: 4000

Enter a valid alphabet for operation
'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation:
Enter a valid alphabet for operation
'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation:
Enter a valid alphabet for operation
'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation:
Enter a valid alphabet for operation
'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process
```

Test Case 2

```
input
Enter your account balance (>500): 5000

'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation: d

Enter the amount to be deposited: 500

Amount deposited successfully
The balance in your account is 5500
'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation:
Enter a valid alphabet for operation
'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process
```

Test Case 3


```
Enter your account balance (>500): 5000

'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation: y

How many friends you want to refer: 1

The balance in your account is 5050
'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation:
Enter a valid alphabet for operation
'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation: []
```

Test Case 4


```
Enter your account balance (>500): 5000

'W' or 'w' for withdrawal
'D' or 'd' for deposit
'Y' or 'y' for refering your friend
'Q' or 'q' for quiting the process

Enter your operation: q

...Program finished with exit code 0
Press ENTER to exit console.[]
```

2.

Source Code:

```c
#include <stdio.h>

int power(int a,int b){
    int i, val=1;
    for (i = 0;i<b;i++){
        val = val * a;
    }
    return val;
}

int gcd(int a, int b){
    int i, val;
    for(i=1; i <= a && i <= b; ++i){
        if(a%i==0 && b%i==0)
            val = i;
    }
    return val;
}

int chk_prime(int a){
    int pr = 1;
    int i;
    for (i=2;i<a;i++){
        if (a%i == 0)
            pr = 0;
    }
```

```c
        return pr;

}


int prime(int a){

    int i;

    for (i=2;i<=a;i++){

        if (chk_prime(i) == 1)

            printf("%d\n",i);

    }

    return 0;

}


int main(void){

    int chr;

    int a,b, x = 1;

    int answer1,answer2,answer3;

    while (x == 1){

    printf("\n1 for finding power of a number\n");

    printf("2 for finding GCD(HCF) of 2 numbers\n");

    printf("3 for printing all primes between 1 and given number\n");

    printf("4 for quitting this program\n");

    printf("Choose from above options: ");

    scanf("%d", &chr);



        switch(chr){

        case 1:

            printf("Enter a number: ");

            scanf("%d", &a);
```

```c
            printf("Enter a number: ");

            scanf("%d", &b);

            answer1 = power(a,b);

            printf("%d", answer1);

            break;


        case 2:

            printf("Enter a number: ");

            scanf("%d", &a);

            printf("Enter a number: ");

            scanf("%d", &b);

            answer2 = gcd(a,b);

            printf("G.C.D of %d and %d is %d", a, b, answer2);

            break;


        case 3:

            printf("\nEnter a number till which prime number is to be printed: ");

            scanf("%d", &a);

            answer3 = prime(a);

            printf("\nThe balance in your account is %d", answer3);

            break;
        case 4:

            x = 0;

            break;


        default:

            printf("\nEnter a valid number for operation");

        }
}
```

}

Test Case 1:

```
1 for finding power of a number
2 for finding GCD(HCF) of 2 numbers
3 for printing all primes between 1 and given number
4 for quitting this program
Choose from above options: 1

Enter a number: 2

Enter a number: 4
16
```

Test Case 2:

```
1 for finding power of a number
2 for finding GCD(HCF) of 2 numbers
3 for printing all primes between 1 and given number
4 for quitting this program
Choose from above options: 2

Enter a number: 10

Enter a number: 6
G.C.D of 10 and 6 is 2
```

Test Case 3:

```
1 for finding power of a number
2 for finding GCD(HCF) of 2 numbers
3 for printing all primes between 1 and given number
4 for quitting this program
Choose from above options: 3

Enter a number till which prime number is to be printed: 20
2
3
5
7
11
13
17
19
```

Test Case 4:

```
1 for finding power of a number
2 for finding GCD(HCF) of 2 numbers
3 for printing all primes between 1 and given number
4 for quitting this program
Choose from above options: 4


...Program finished with exit code 0
Press ENTER to exit console.
```