C Programming

Assignment 1

28/03/2023

1)

Write a C program to check positive, negative or zero using simple if or if else. C program to input any number from user and check whether the given number is positive, negative or zero. Logic to check negative, positive or zero in C programming

Ans;

```
#include<stdio.h>
int main()
{
	int n;
	printf("enter the number:");
	scanf("%d",&n);
	if(n<0)
	{
		printf("the number is negative");
	}
	else if(n==0)
	{
		printf("the number is zero");
	}
	else
	{
		printf("the number is positive");
	}
	return 0;
}
```

2)Write a C program to check whether a number is divisible by 5 and 11 or not using if else. How to check divisibility of any number in C programming. C program to enter any number and check whether it is divisible by 5 and 11 or not. Logic to check divisibility of a number in C program.

ANS;

```
#include<stdio.h>
int main()
{
	int n;
	printf("enter the number:");
	scanf("%d",&n);
```

```
        if(n%5==0 || n%11==0)
        {
                printf("the  number divisible by 5 and 11");
        }
        else
        {
                printf("the number is not divisible by 5 and 11");
        }
}
```

3)Write a C program to input a character from user and check whether the given character is alphabet or not using if else. How to check whether a character is alphabet or not in C programming. Logic to check if a character is alphabet or not in C program

ANS;

```
#include<stdio.h>
int main()
{
        char ch;
        printf("enter the character:");
        scanf("%s",&ch);
        if(ch>='a' && ch<='z' || ch>='A' && ch<='Z')
        {
                printf("%s is alphabet");
        }
        else
        {
                printf("%s is not a alphabet");
        }
        return 0;
}
```

4)Write a C program to count the Vowels in the given string.

ANS;

```
#include <stdio.h>
int main() {

  char line[150];
  int vowels, consonant, digit, space;
```

```
  vowels = consonant = digit = space = 0;


  printf("Enter a line of string: ");
  fgets(line, sizeof(line), stdin);


  for (int i = 0; line[i] != '\0'; ++i) {


    line[i] = tolower(line[i]);


    if (line[i] == 'a' || line[i] == 'e' || line[i] == 'i' ||
        line[i] == 'o' || line[i] == 'u') {


      ++vowels;
    }


    else if ((line[i] >= 'a' && line[i] <= 'z')) {
      ++consonant;
    }


    else if (line[i] >= '0' && line[i] <= '9') {
      ++digit;
    }


    else if (line[i] == ' ') {
      ++space;
    }
  }

  printf("Vowels: %d", vowels);
  printf("\nConsonants: %d", consonant);
  printf("\nDigits: %d", digit);
  printf("\nWhite spaces: %d", space);

  return 0;
}
```

5)Write a C program to input character from user and check whether character is uppercase or lowercase alphabet using if else. How to check uppercase and lowercase using if else in C programming. Logic to check uppercase and lowercase alphabets in C program.

ANS;

```
#include <stdio.h>
int main()
{
   char c;
   printf("Enter m to display uppercase alphabets.\n");
   printf("Enter r to display lowercase alphabets. \n");
   scanf("%c", &c);

   if (c=='m' || c=='m')
         {
      for (c = 'A'; c <= 'Z'; ++c)
         printf("%c ", c);
   }
         else if (c=='r' || c=='r')
         {
      for (c = 'a'; c <= 'z'; ++c)
         printf("%c ", c);
   } else {
      printf("Error! You entered an invalid character.");
   }

   return 0;
}
```

6)Write a C program to input amount from user and print minimum number of notes (Rs. 500, 100, 50, 20, 10, 5, 2, 1) required for the amount. How to the minimum number of notes required for the given amount in C programming. Program to find minimum number of notes required for the given denomination. Logic to find minimum number of denomination for a given amount in C program.

ANS:

```
#include <stdio.h>
int main()
{
int a, b, i, flag;
printf("\nEnter start value : ");
scanf("%d",&a);
printf("\nEnter end value : ");
```

```
scanf(“%d”,&b);
printf(“\nPrime Numbers between %d and %d : “, a, b);
while (a < b)
{
flag = 0;
for(i = 2; i <= a/2; ++i)
{
if(a % i == 0)
{
flag = 1;
break;
}
}
if (flag == 0)
printf(“%d “, a);
++a;
}
printf(“\n”);
return 0;
}
```

7)Write a C program to input a number from user and count number of digits in the given integer using loop. How to find total digits in a given integer using loop in C programming. Logic to count digits in a given integer without using loop in C program.

```
include <stdio.h>

int main() {
   int num, count = 0;

   printf("Enter a number: ");
   scanf("%d", &num);

   count = (int)log10(num) + 1;

   printf("Total digits: %d", count);

   return 0;
}
```

8. Write a C program to input a number and calculate sum of digits using for loop. How to find sum of digits of a number in C program. Logic to find sum of digits of a given number in C programming.

9. Write a C program to input a number from user and find reverse of the given number using for loop. How to find reverse of any number using loop in C program. Logic to find reverse of a number in C programming.

```
#include <stdio.h>

int main() {
    int num, reversed = 0;

    printf("Enter a number: ");
    scanf("%d", &num);

    while(num != 0) {
        reversed = (reversed * 10) + (num % 10);
        num /= 10;
    }

    printf("The reversed number is: %d\n", reversed);

    return 0;
}
```

10. Write a C program to input decimal number from user and convert to binary number system. How to convert from decimal number to binary number system in C program. Logic to convert decimal to binary number system in C programming.

ANS;

```
#include <stdio.h>
#include <math.h>


int convert(long long);

int main() {
  long long n;
  printf("Enter a binary number: ");
  scanf("%lld", &n);
  printf("%lld in binary = %d in decimal", n, convert(n));
  return 0;
}


int convert(long long n) {
  int dec = 0, i = 0, rem;
```

```
  while (n!=0) {
    rem = n % 10;
    n /= 10;
    dec += rem * pow(2, i);
    ++i;
  }

  return dec;
}
```