

C Language Programs

Assignment 2

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Experiment 1

Objective: Write a C program to print all alphabets from a to z.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include <stdio.h>**

**int main()**

**{**

**char ch;**

**printf("Alphabets from a - z are: \n");**

**for(ch='a'; ch<='z'; ch++)**

**{**

**printf("%c ", ch);**

**}**

**return 0;**

**}**

Output:

Alphabets from a-z are

a b c d e f g h I j k l m n o p q r s t u v w x y z

Experiment 2

Objective: Write a C program to print all even numbers between 1 to 100.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include <stdio.h>**

**int main() {**

**int i;**

**printf("Even numbers between 1 to 100:\n");**

**for (i = 1; i <= 50; i++)**

**{**

**if(i%2 == 0)**

**{**

**printf("%d ", i);**

**}**

**}**

**return 0;**

**}**

Output:

Even numbers between1 to 100:

2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

Experiment 3

Objective: Write a C program to find sum of all odd numbers between 1 to n.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include <stdio.h>**

**int main()**

**{**

**int i, n, sum=0;**

**printf("Enter upper limit: ");**

**scanf("%d", &n);**

**for(i=1; i<=n; i+=2)**

**{**

**sum += i;**

**}**

**printf("Sum of odd numbers = %d", sum);**

**return 0;**

**}**

Output:

Enter upper limit:

Sum of odd numbers=

Experiment 4

Objective: Write a C program to print multiplication table of any number.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include <stdio.h>**

**int main()**

**{**

**int n, i;**

**printf("Enter an integer: ");**

**scanf("%d", &n);**

**for (i = 1; i <= 10; ++i)**

**{**

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

**}**

**return 0;**

**}**

Output:

Enter an integer:

//Multiplication table:

Experiment 5

Objective: Write a C program to count number of digits in a number.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include<stdio.h>**

**int main()**

**{**

**long int num;**

**int count = 0, rem;**

**printf("Enter a number: ");**

**scanf("%ld", &num);**

**while (num != 0)**

**{ rem = num % 10; // get the last digit of num**

**num = num / 10; // remove the last digit from num**

**count++; // increment count by 1**

**}**

**printf("%d", count);**

**return 0;**

**}**

Output:

Enter a number: (the number of digits will be printed in the next line)

Experiment 6

Objective: Write a C program to find first and last digit of a number.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include <stdio.h>**

**int main()**

**{**

**int n, first,lastDigit;**

**printf("Enter any number: ");**

**scanf("%d", &n);**

**first = n;**

**while(first >= 10)**

**{**

**first = first / 10;**

**}**

**lastDigit = n % 10;**

**printf("First digit = %d\n", first);**

**printf("Last digit = %d", lastDigit);**

**return 0;**

**}**

Output:

Enter any number:

First digit =

Last digit =

Experiment 7

Objective: Write a C program to swap first and last digits of a number.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include <stdio.h>**

**#include <math.h>**

**int main()**

**{**

**int num, swappedNum;**

**int firstDigit, lastDigit, digits;**

**printf("Enter any number: ");**

**scanf("%d", &num);**

**lastDigit = num % 10;**

**digits = (int)log10(num);**

**firstDigit = (int)(num / pow(10, digits));**

**swappedNum = lastDigit;**

**swappedNum \*= (int) pow(10, digits);**

**swappedNum += num % ((int) pow(10, digits));**

**swappedNum -= lastDigit;**

**swappedNum += firstDigit;**

**printf("Original number = %d\n", num);**

**printf("Number after swapping first and last digit: %d", swappedNum);**

**return 0;**

**}**

Output:

Enter any number:

Original number=

Number after swapping first and last digits:

Experiment 8

Objective: Write a C program to find frequency of each digit in each integer.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include<stdio.h>**

**int main()**

**{**

**int i,n,num,k,frequency[10],flag=0;**

**for(i=0;i<10;i++)**

**{**

**frequency[i]=0;**

**}**

**printf("Enter number of elements in an array\n");**

**scanf("%d",&n);**

**int a[n];**

**printf("Enter numbers\n");**

**for(i=0;i<n;i++)**

**{**

**scanf("%d",&a[i]);**

**num=a[i];**

**while(num>0)**

**{**

**k=num%10;**

**frequency[k]++;**

**num=num/10;**

**}**

**}**

**for(i=0;i<10;i++)**

**{**

**if(frequency[i]!=0)**

**{**

**flag=1;**

**printf("%d occured %d times\n",i,frequency[i]);**

**}**

**}**

**if(flag==0)**

**{**

**printf("No elements repeated\n");**

**}**

**}**

Output:

Enter the number of elements in an array

Enter numbers

Experiment 9

Objective: Write a C program to enter a number and print it in words.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include <stdio.h>**

**int main()**

**{**

**int n, num = 0;**

**printf("Enter any number to print in words: ");**

**scanf("%d", &n);**

**while(n != 0)**

**{**

**num = (num \* 10) + (n % 10);**

**n /= 10;**

**}**

**while(num != 0)**

**{**

**switch(num % 10)**

**{**

**case 0:**

**printf("Zero ");**

**break;**

**case 1:**

**printf("One ");**

**break;**

**case 2:**

**printf("Two ");**

**break;**

**case 3:**

**printf("Three ");**

**break;**

**case 4:**

**printf("Four ");**

**break;**

**case 5:**

**printf("Five ");**

**break;**

**case 6:**

**printf("Six ");**

**break;**

**case 7:**

**printf("Seven ");**

**break;**

**case 8:**

**printf("Eight ");**

**break;**

**case 9:**

**printf("Nine ");**

**break;**

**}**

**num = num / 10;**

**}**

**return 0;**

**}**

Output:

Enter any number to print in words:

Experiment 10

Objective: Write a C program to print all ASCII character with their values.

Language Used: C

Theory: The compiler is a type of language processor which converts a high level program into machine level program at one go rather than line by line. The language processor converts all user instructions into machine understandable language.

Program:

**#include<stdio.h>**

**void main()**

**{**

**int i = 0;**

**char ch;**

**for (i = 0; i < 256; i++)**

**{**

**printf("%c ", ch);**

**ch = ch + 1;**

**}**

**}**

Output:

//All the ASCII characters will be printed.