**MCQ Questions - 1 Mark**

1. Which keyword is used to prevent any changes in the variable within a C program?

a) immutable

b) mutable

**c) const**

d) volatile

2. What is the result of logical or relational expression in C?

a) True or False

**b) 0 or 1**

c) 0 if an expression is false and any positive number if an expression is true

d) None of the mentioned

3. What will be the output of the following C code?

#include <stdio.h>

int main()

{

int x = 0;

if (x == 0)

printf("true, ");

else if (x = 10)

printf("false, ");

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

}

a) false, 0

**b) true, 0**

c) true, 10

d) compile time error

4. What will be the output of the following C code?

#include <stdio.h>

int main()

{

int a = 1;

if (a--)

printf("True");

if (a++)

printf("False");

}

**a) True**

b) False

c) True False

d) No Output

5. What will be the output of the following C code?

#include <stdio.h>

int main()

{

int a = 1;

if (a)

printf("All is Well ");

printf("I am Well\n");

else

printf("I am not a River\n");

}

a) Output will be All is Well I am Well

b) Output will be I am Well I am not a River

c) Output will be I am Well

**d) Compile time errors during compilation**

6. Each statement in a C program should end with.?

**A) Semicolon ;**

B) Colon :

C) Period . (dot symbol)

D) None of the above.

7. Choose a correct statement.

A) C Compiler converts your C program into machine readable language.

B) C Editor allows you to type C Programs. It is just like a Notepad with extra options.

C) Console shows the output of a C Program if it is text output.

**D) All the above**

8. Types of Integers are.?

A) short

B) int

C) long

**D) All the above**

9. What is the output of C Program.?

Assume that the size of char is 1 byte and negatives are stored in 2's complement form

#include<stdio.h>

int main()

{

char c = 125;

c = c+10;

printf("%d", c);

return 0;

}

a) -122

**b) -121**

c) -123

d) -124

10. What is the output of C Program.?

#include<stdio.h>

int main()

{

    float x = 0.1;

    if ( x == 0.1 )

        printf("IF");

    else if (x == 0.1f)

        printf("ELSE IF");

    else

        printf("ELSE");

}

a) ELSE

**b) ELSE IF**

c) compile time error

d) undefined behavior

**MCQ Questions - 2 Marks**

1. What will be output if you will compile and execute the following c code?

#include<stdio.h>

int main()

{

int a=4,b=2,c=3,d=5;

int ans = a/b\*c-d/2;

printf("%d",ans);

return 0;

}

A.2

B.3

C.0

**D.4**

2. What will be output if you will compile and execute the following c code?

#include<stdio.h>

int main(){

int a=5;

if(!(a == 4)){

a = (a&4);

printf("%d",a);

}

else{

a = (a|2);

printf("%d",a);

}

return 0;

}

A.2

**B.4**

C.5

D.1

3. What will be output if you will compile and execute the following c code?

#include <stdio.h>

void main()

{

if (5)

{

goto label1;

}

else

{

printf("Hi ");

}

label2: printf("There");

label1: printf("Hello");

}

A.Hi

**B.Hello**

C.There Hello

D.Hi There Hello

4. What will be output if you will compile and execute the following c code?

#include <stdio.h>

int main()

{

int i = (7,2,3);

--i;

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

return 0;

}

A.5

**B.6**

C.4

D.3

5. What will be output if you will compile and execute the following c code?

#include<stdio.h>

int main()

{

int k=25;

switch(k)

{

case 24: printf("Punjab ");break;

case 25: printf("Chitkara ");

default: printf("University ");

}

printf("India");

return 0;

}

**A.Chitkara University India**

B.Chitkara University Punjab

C.Chitkara University Punjab India

D.Chitkara India

**Coding Questions - 5 Marks**

**1.** **Write a program to check whether a triangle can be formed using the given length of sides.**

#include "stdio.h"

int main(){

int side1=0;

int side2=0;

int side3=0;

scanf("%d",&side1);

scanf("%d",&side2);

scanf("%d",&side3);

if(side1+side2 > side3 && side2+side3 > side1 && side1+side3>side2) printf("POSSIBLE");

else printf("NOT POSSIBLE");

return 0;

}

**Test Cases:**

| **Test case 1** | **Test case 2** | **Test case 3** | **Test case 4** | **Test case 5** |
| --- | --- | --- | --- | --- |
| **Input**  10  20  30  **Output**  NOT POSSIBLE | **Input**  10  15  20  **Output**  POSSIBLE | **Input**  5  4  3  **Output**  POSSIBLE | **Input**  10  30  60  **Output**  NOT POSSIBLE | **Input**  20  100  200  **Output**  NOT POSSIBLE |

**2.** **Write a program to display EVEN if the number is even or ODD if the number is odd.**

#include "stdio.h"

int main(){

int num=0;

scanf("%d",&num);

if(num%2!=0)printf("ODD");

else printf("EVEN");

return 0;

}

**Test Cases:**

| **Test case 1** | **Test case 2** | **Test case 3** | **Test case 4** | **Test case 5** |
| --- | --- | --- | --- | --- |
| **Input**  1  **Output**  ODD | **Input**  4  **Output**  EVEN | **Input**  6  **Output**  EVEN | **Input**  0  **Output**  EVEN | **Input**  9  **Output**  ODD |

**Coding Questions - 10 Marks**

1. **Rehan has been assigned a task to prepare a chart of strong numbers. Write a program to help rehan to find strong numbers. [Note: Strong Numbers are the numbers whose sum of factorial of digits is equal to the original number.]**

**Ans:**

**#include <stdio.h>**

**// Function declarations**

**long long fact(int num);**

**void printStrongNumbers(int start, int end);**

**int main()**

**{**

**int start, end;**

**/\* Input start and end range \*/**

**printf("Enter the lower limit: ");**

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

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

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

**printf("List of strong numbers between %d to %d are: \n", start, end);**

**printStrongNumbers(start, end);**

**return 0;**

**}**

**//Printing all strong numbers in a given range**

**void printStrongNumbers(int start, int end)**

**{**

**long long sum;**

**int num;**

**// Iterates from start to end**

**while(start != end)**

**{**

**sum = 0;**

**num = start;**

**// Calculating sum of factorial of digits**

**while(num != 0)**

**{**

**sum += fact(num % 10);**

**num /= 10;**

**}**

**// If sum of factorial of digits equal to current number**

**if(start == sum)**

**{**

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

**}**

**start++;**

**}**

**}**

**//Recursively find factorial of any number**

**long long fact(int num)**

**{**

**if(num == 0)**

**return 1;**

**else**

**return (num \* fact(num-1));**

**}**

|  | **Test Case 1** | **Test Case 2** | **Test Case 3** |
| --- | --- | --- | --- |
| **Input** | **1**  **500** | **1**  **200** | **1**  **400** |
| **Output** | **1 2 145** | **1 2 145** | **1 2 145** |