**MCQ Questions - 1 Mark**

1. Which of the following is not a valid C variable name?

a) int number;

b) float rate;

c) int variable\_count;

**d) int $main;**

2. All keywords in C are in \_\_\_\_\_\_\_\_\_\_\_\_

**a) LowerCase letters**

b) UpperCase letters

c) CamelCase letters

d) None of the mentioned

3. What is the difference between the following 2 C codes?

#include <stdio.h> //Program 1

int main()

{

int d, a = 1, b = 2;

d = a++ + ++b;

printf("%d %d %d", d, a, b);

}

#include <stdio.h> //Program 2

int main()

{

int d, a = 1, b = 2;

d = a++ +++b;

printf("%d %d %d", d, a, b);

}

a) No difference as space doesn’t make any difference, values of a, b, d are same in both the case

b) Space does make a difference, values of a, b, d are different

c) Program 1 has syntax error, program 2 is not

**d) Program 2 has syntax error, program 1 is not**

4. What will be the output of the following C code? (Assuming that we have entered the value 1 in the standard input)

#include <stdio.h>

void main()

{

int ch;

printf("enter a value 1:");

scanf("%d", &ch);

switch (ch)

{

case 1:

printf("1\n");

default:

printf("2\n");

}

}

a) 1

b) 2

**c) 1 2**

d) Run time error

5. What will be the output of the following C code? (Assuming that we have entered the value 2 in the standard input)

#include <stdio.h>

void main()

{

int ch;

printf("enter a value between 1 to 2:");

scanf("%d", &ch);

switch (ch)

{

case 1:

printf("1\n");

break;

printf("hi");

default:

printf("2\n");

}

}

a) 1

b) hi 2

c) Run time error

**d) 2**

6. Which of the following is an invalid assignment operator?

a) a %= 10;

b) a /= 10;

c) a |= 10;

**d) None of the mentioned**

7. Which of the following is a valid assignment operator?

a) +=

b) -=

c) \*=

**d) All of the mentioned**

8. Among unary operation which operator represents increment?

a) --

**b) ++**

c) -

d) !

9. What is the output of C Program.?

#include<stdio.h>

int main()

{

{

int var = 10;

}

{

printf("%d", var);

}

return 0;

}

**a) Compile time error**

b) 10

c) 0

d) Undefined behavior

10. What is the output of C Program.?

#include <stdio.h>

int main()

{

int x = 1, y = 2, z = 3;

printf(" x = %d, y = %d, z = %d \n", x, y, z);

{

int x = 10;

float y = 20;

printf(" x = %d, y = %f, z = %d \n", x, y, z);

{

int z = 100;

printf(" x = %d, y = %f, z = %d \n", x, y, z);

}

}

return 0;

}

**a) x = 1, y = 2, z = 3**

**x = 10, y = 20.000000, z = 3**

**x = 10, y = 20.000000, z = 100**

b) Compile time error

c) x = 10, y = 20.000000, z = 3

x = 10, y = 20.000000, z = 3

x = 10, y = 20.000000, z = 100

d) x = 1, y = 2, z = 3

x = 1, y = 2, z = 3

x = 1, y = 2, z = 3

**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=2,b=3,c=6,d=5;

int ans = a/b+c+d\*2-5;

printf("%d",ans);

return 0;

}

A.12

B.24

**C.11**

D.10

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

#include<stdio.h>

int main(){

int a=4;

if(a==4){

a =a>>1;

printf("%d",a);

}

else{

a = a>>2;

printf("%d",a);

}

return 0;

}

A.1

**B.2**

C.3

D.4

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

#include <stdio.h>

int main()

{

int a = 1;

int b = 1;

int c = a || --b;

int d = a-- && --b;

printf("%d,%d,%d,%d", a, b, c, d);

return 0;

}

A.0,0,1,1

**B.0,0,1,0**

C.0,1,0,1

D.1,1,0,1

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

#include <stdio.h>

int main()

{

printf("Start ");

goto l2;

printf("%d ", 2);

l1:goto l2;

l2:printf("from ", 4);

printf("Here");

}

**A.Start from Here**

B.Start Here

C.Start from

D.Start 2 Here

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

#include <stdio.h>

int main()

{

int a=3;

switch(a)

{

case 0: printf("0 "); break;

case 3: printf("3 "); break;

case 5: printf("5 ");break;

default: printf("Go ");

}

a=5;

switch(a)

{

case 0: printf("0 ");break;

case 3: printf("3 ");break;

case 5: printf("5 ");

default: printf("Go "); break;

}

return 0;

}

**A.3 5 Go**

B.5 Go

C.5 Go 5 Go

D.3 5

**Coding Questions - 5 Marks**

**1.** **Write a program to input the Roll no, name, marks, and maximum marks of the student and print his/her roll no, name and percentage with decimals and all values should be space separated.**

#include "stdio.h"

int main(){

int roll=0;

float marks=0;

char name[1000];

float mmarks=0;

scanf("%d",&roll);

scanf("%s",&name);

scanf("%f",&marks);

scanf("%f",&mmarks);

mmarks= (marks/mmarks)\*100;

printf("%d %s %f", roll, name, mmarks);

return 0;

}

**Test Cases:**

| **Test case 1** | **Test case 2** | **Test case 3** | **Test case 4** | **Test case 5** |
| --- | --- | --- | --- | --- |
| **Input**  1 Mayank 450 500  **Output**  1 Mayank 90.00 | **Input**  123 Arun 400 500  **Output**  123 Arun 80.00 | **Input**  1212 Divya 300 350  **Output**  1212 Divya 85.71 | **Input**  421 Omkrit 410 500  **Output**  421 Omkrit 82.00 | **Input**  231 Raghav 380 500  **Output**  231 Raghav 76.00 |

**2.** **Write a C program to read temperature in centigrade and display a suitable message according to temperature state below :**

**Temp < 0 then Freezing Weather**

**Temp 0-10 then Very Cold Weather**

**Temp 10-20 then Cold Weather**

**Temp 20-30 then Normal in Temp**

**Temp 30-40 then Its Hot**

**Temp >=40 then Its Very Hot**

#include "stdio.h"

int main(){

int temp=0;

scanf("%d",&temp);

if(temp>=0){

switch (temp / 10) {

case 0:

printf("Very Cold Weather");

break;

case 1:

printf("Cold Weather");

break;

case 2:

printf("Normal in Temp");

break;

case 3:

printf("Its Hot");

break;

default:

printf("Its very hot");

break;

}

}

else printf("Freezing Weather");

return 0;

}

**Test Cases:**

| **Test case 1** | **Test case 2** | **Test case 3** | **Test case 4** | **Test case 5** |
| --- | --- | --- | --- | --- |
| **Input**  -1  **Output**  Freezing Weather | **Input**  7  **Output**  Very Cold Weather | **Input**  17  **Output**  Cold Weather | **Input**  27  **Output**  Normal in Temp | **Input**  48  **Output**  Its very hot |

**Coding Questions - 10 Marks**

**We have to design a frequency calculator in which we want to calculate how many times the particular digit is occurring in number.**

**Ans:**

**#include <stdio.h>**

**#define BASE 10 /\* Constant \*/**

**int main()**

**{**

**long long num, n;**

**int i, lastDigit;**

**int freq[BASE];**

**/\* Input number from user \*/**

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

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

**/\* Initialize frequency array with 0 \*/**

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

**{**

**freq[i] = 0;**

**}**

**/\* Copy the value of 'num' to 'n' \*/**

**n = num;**

**/\* Run till 'n' is not equal to zero \*/**

**while(n != 0)**

**{**

**/\* Get last digit \*/**

**lastDigit = n % 10;**

**/\* Remove last digit \*/**

**n /= 10;**

**/\* Increment frequency array \*/**

**freq[lastDigit]++;**

**}**

**/\* Print frequency of each digit \*/**

**printf("Frequency of each digit in %lld is: \n", num);**

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

**{**

**printf("Frequency of %d = %d\n", i, freq[i]);**

**}**

**return 0;**

**}**

|  | **Test Case 1** | **Test Case 2** | **Test Case 3** |
| --- | --- | --- | --- |
| **Input** | **123** | **2560** | **3126** |
| **Output** | **Frequency of 0 = 0**  **Frequency of 1 = 1**  **Frequency of 2 = 1**  **Frequency of 3 = 1**  **Frequency of 4 = 0**  **Frequency of 5 = 0**  **Frequency of 6 = 0**  **Frequency of 7 = 0**  **Frequency of 8 = 0**  **Frequency of 9 = 0** | **Frequency of 0 = 1**  **Frequency of 1 = 0**  **Frequency of 2 = 1**  **Frequency of 3 = 0**  **Frequency of 4 = 0**  **Frequency of 5 = 1**  **Frequency of 6 = 1**  **Frequency of 7 = 0**  **Frequency of 8 = 0**  **Frequency of 9 = 0** | **Frequency of 0 = 0**  **Frequency of 1 = 1**  **Frequency of 2 = 1**  **Frequency of 3 = 1**  **Frequency of 4 = 0**  **Frequency of 5 = 0**  **Frequency of 6 = 1**  **Frequency of 7 = 0**  **Frequency of 8 = 0**  **Frequency of 9 = 0** |