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**Assignment# 04**

**C language**

Q1: Write a C program to print Hello Students on the screen

ANS: #include<stdio.h>

int main()

{

printf("Hello students");

}

Q2: Write a C Program to print Hello on the first line and Students in the second line

ANS: #include<stdio.h>

int main()

{

printf("Hello\nstudents");

}

Q3: Write a C program to print “MySirG” on the screen

ANS: #include<stdio.h>

int main()

{

printf("\"My SirG\"");

}

Q4: Write a C program to print “Teacher’s Day” on the screen

ANS: #include<stdio.h>

int main()

{

printf("\"Teachers's Day\"");

}

Q5: Write a C program to print \n on the screen

ANS: #include<stdio.h>

int main()

{

printf("\\n");

}

Q6: Write a C program to print %d on the screen

ANS: #include<stdio.h>

int main()

{

printf("%%d");

}

Q7: Write a C program containing declaration of three variables (of type int, char and  
float), also assign some values to them and print values of all three variables using  
single printf()

ANS: #include<stdio.h>

int main()

{

int a= 5;

char x='z';

float h = 3.098;

printf(" the value of a=%d, the value of c=%c, the value of h=%f",a,x,h);

}

Q8: Explore following format specifiers on internet - %i, %g, %lf

ANS:

1. **%i:** %i and %d work the same as they both can be used to print decimal integers but %i is more portable and can be used on any system while %d can work on that system that supports the POSIX locale.
2. **%g :** This format specifier is used to print a floating-point number in either scientific or decimal notation, depending on the value of the number.
3. **%lf :** This format specifier is used to print a long double floating-point number

Q9: Write a C program to print character stored in a char variable, also print its ASCII  
code.

ANS: #include<stdio.h>

int main()

{

char x = 't';

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

printf("the ASCII code of t is %d",x);

}

Q10: How to convert a Decimal number into a Binary number and vice versa

**ANS: Decimal into Binary:** to convert a decimal number into a binary number. One way is to use the long division method. Divide the decimal number by 2, and write down the remainder. Continue dividing the quotient by 2, and writing down the remainders. The remainders, in reverse order, are the binary representation of the decimal number.

For example, to convert the decimal number 10 to binary, we would do the following

10 / 2 = 5 with remainder 0

5 / 2 = 2 with remainder 1

2 / 2 = 1 with remainder 0

The remainders, in reverse order, are 0, 1, 2, 5. So, the binary representation of 10 is 1010.

**Binary into Decimal:** steps on how to convert binary to decimal:

1. Write the binary number.
2. Start from the rightmost digit and multiply each digit by 2 raised to the power of its position.
3. Add the products together.
4. The result is the decimal equivalent of the binary number.

For example, to convert the binary number 1010 to decimal, we would do the following:

1. Write the binary number: 1010
2. Start from the rightmost digit and multiply each digit by 2 raised to the power of its position:
   * 1 x 2^3 = 8
   * 0 x 2^2 = 0
   * 1 x 2^1 = 2
   * 0 x 2^0 = 0
3. Add the products together:
   * 8 + 0 + 2 + 0 = 10
4. The result is the decimal equivalent of the binary number: 10