

C Programming Project work for IRM 100Level

Submission & defence date: oct., 19, 2011²⁰ ¹²

1. Write a program that prints out the numeric values of characters Z and z.
2. Given two numeric values, 72 and 104, write a program to print out the corresponding two characters.
3. Write a C program to find the area of a triangle whose sides are 2,3,4 for a,b,c respectively
4. Given the declaration double dbl_num = 123.456;, write a program that prints out the value of dbl_num in both floating-point and scientific notation formats.
5. Write a program that can print out your identity as a student of Babcock University.
6. Write a C program to display even number on the screen between 1 to 50
7. Write a C program to Print out odd numbers between 1-100
8. Write a C program to display your names as well as the equivalent numeric values on the screen
9. Write a C program that print out the numeric ASCII equivalent of the alphabet A-Z
10. Input two numbers and work out their sum, average and sum of the squares of the numbers.
11. ~~Input and output your name, address and age to an appropriate structure.~~
12. Write a program that works out the largest and smallest values from a set of 10 inputted numbers.
13. Write a program to read a "float" representing a number of degrees Celsius, and print as a "float" the equivalent temperature in degrees Fahrenheit. Print your results in a form such as 100.0 degrees Celsius converts to 212.0 degrees Fahrenheit.
14. Write a program to print several lines (such as your name and address). You may use either several printf instructions, each with a newline character in it, or one printf with several newlines in the string.
15. Write a program to read a positive integer at least equal to 3, and print out all possible permutations of three positive integers less or equal to this value.
16. Write a program to read a number of units of length (a float) and print out the area of a

circle of that radius. Assume that the value of pi is 3.14159 -Your output should take the form: The area of a circle of radius ... units is units. -If you want to be clever, and have looked ahead in the notes, print the message Error: Negative values not permitted. if the input value is negative.

17. Write a program to accept a character from the keyboard and print out it equivalent ASCII code.

18. Write a program to accept angles in degrees and convert it to radian

19. Given that $\text{Amount} = p(1 + r/100)^n$, let principal =80, rate= 2, years=10 what is the value of amount? Write a program to display this out.

20. What will the following program output?

```
#include <stdio.h>

main()
{
    printf("Programming in C is easy.\n");
    printf("And so is Pascal.\n");
}
```

21. Write a Program to find the maximum and minimum of two numbers

22. Write a program to find the smallest of three numbers

23. Write a program to find the root of a quadratic equation.

25. Write a program to print out your names, courses taken in Babcock Uni. First semester, 2011 and the grades and GP.

26. Which of the following statements are correct about the below C-program?

```
#include <stdio.h>
int main()
{
    int x = 10, y = 100%90, i;
    for(i=1; i<10; i++)
        if(x != y);
        printf("x = %d y = %d\n", x, y);
    return 0;
}
```

1 : The `printf()` function is called 10 times.

2 : The program will produce the output `x = 10 y = 10`

3 : The ; after the `if(x!=y)` will NOT produce an error.

4 : The program will not produce output.

27. What will be the output of the program?

```
#include<stdio.h>
main()
{
    int k, num=30;
    k = (num>5 ? (num <=10 ? 100 : 200) : 500);
    printf("%d\n", num);
    return 0;
}
```

28. Point out the error in the following program.

```
#include<stdio.h>
int main()
{
    struct emp
    {
        char name[20];
        float sal;
    };
    struct emp e[10];
    int i;
    for(i=0; i<=9; i++)
        scanf("%s %f", e[i].name, &e[i].sal);
    return 0;
}
```

29. Write a program to calculate the area of a circle of radius 5
30. Which of the following statements are correct about the function

```
long fun(int num)
{
    int i;
    long f=1;
    for(i=1; i<=num; i++)
        f = f * i;
    return f;
}
```

- A. The function calculates the value of 1 raised to power num.
- B. The function calculates the square root of an integer
- C. The function calculates the factorial value of an integer
- D. None of above

31. Write a program to display in centigrade the temp. supplied in Fahrenheit using this formula-
- $$C = (F - 32) / 9$$

32. Which of the statements is correct about the program?

```
#include<stdio.h>
int main()
{
    float a=3.14;
    char *j;
    j = (char*)&a;
}
```

```
    printf("%d\n", *j);
    return b;
```

- A. It prints ASCII value of the binary number present in the first byte of a float variable *a*.
- B. It prints character equivalent of the binary number present in the first byte of a float variable *a*.

C. It will print 3

D. It will print a garbage value

33. Write a program to accept a particular year from the KB and display on the screen if it is a leap year or not.

34. Write a program that displays the message-press any key to continue-and it terminate.

35. If *char*=1, *int*=4, and *float*=4 bytes size, What will be the output of the program ?

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

```
int main()
{
    char ch = 'A';
    printf("%d, %d, %d", sizeof(ch), sizeof('A'), sizeof(3.14f));
    return 0;
}
```

36. What will be the output of the program ?

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

```
int main()
{
    char str[] = "Nagpur";
    str[0]='K';
    printf("%s", str);
    str = "Kanpur";
    printf("%s", str+1);
    return 0;
}
```

37. What will be the output of the program ?

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

```
int main()
{
    int i=4, j=8;
    printf("%d, %d, %d\n", i|j&j|i, i|j&j|i, i^j);
    return 0;
}
```

38. Write a program that display the average of three numbers received on the screen.

39. What will be the output of the program?

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

return 0;

.. Point out the error in the program?

```
#include<stdio.h>

int main()
{
    struct emp
    {
        char name[20];
        float sal;
    };
    struct emp e[10];
    int i;
    for(i=0; i<=9; i++)
        scanf("%s %f", e[i].name, &e[i].sal);
    return 0;
}
```

57. What will be the output of the program if value 25 given to *scanf()*?

```
#include<stdio.h>

int main()
{
    int i;
    printf("%d\n", scanf("%d", &i));
    return 0;
}
```

58. Write a program to calculate the length of a circle given that $r=5$, $\theta=30$.

59. What will be the output of the program?

```
#include<stdio.h>

typedef struct error {int warning, err, exception;} ERROR;

int main()
{
    ERROR e;
    e.err=1;
    printf("%d\n", e.err);
    return 0;
}
```

60. * What will be the output of the program?

```
#include<stdio.h>

int main()
{
    const int i=0;
    printf("%d\n", i++);
    return 0;
}
```



```

in()
{
    char c=48;
    int i, mask=01;
    for(i=1; i<=5; i++)
    {
        printf("%c", c|mask);
        mask = mask<<1;
    }
    return 0;
}

```

40. Write a program that displays on the screen the modulus of number received.

41. Which header file should you include, if you are going to develop a function, which can accept variable number of arguments?

- ☐ A.vararg.h
- ☐ B.stdlib.h
- ☐ C.stdio.h
- ☐ D.stdarg.h

42. Point out the error in the following program.

```

#include<stdio.h>
#include<stdarg.h>
void varfun(int n, ...);

int main()
{
    varfun(3, 7, -11.2, 0.66);
    return 0;
}

void varfun(int n, ...)
{
    float *ptr;
    int num;
    va_start(ptr, n);
    num = va_arg(ptr, int);
    printf("%d", num);
}

```

43. How many times the *while* loop will get executed if a *short int* is 2 byte wide?

```

#include<stdio.h>
int main()
{
    int j=1;
    while(j <= 255)
    {
        printf("%c %d\n", j, j);
        j++;
    }
    return 0;
}

```

44. Which of the following errors would be reported by the compiler on compiling the program given below?

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

```
int a = 5;
switch(a)
{
case 1:
printf("First");

case 2:
printf("Second");

case 3 + 2:
printf("Third");

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

}
return 0;
```

- Ⓐ There is no *break* statement in each case.
- Ⓑ Expression as in *case 3 + 2* is not allowed.
- Ⓒ Duplicate case *case 5*:
- Ⓓ No error will be reported.

45. Write a program that returns the square root of an integer.

46. What will be the output of the program?

```
#include<stdio.h>
int main()
{
int i=2;
printf("%d, %d\n", ++i, ++i);
return 0;
}
```

47. Write a program to display the length of the string typed from the KB.

48. Write a program that reads in five integers and print out the largest.

49. What will be the output of the program?

```
#include<stdio.h>
#define SQR(x) (x*x)
```

```
int main()
{
int a, b=3;
a = SQR(b+2);
printf("%d\n", a);
return 0;
}
```