Midterm (Apr 7 2016)

Name:

1. Write all of variables and its size in C order by size (variable)

|  |  |
| --- | --- |
| char | 1 |
| short | 2 |
| int | 4 |
| long | 4 |
| float | 4 |
| double | 5 |

1. What keyword can tell us size of the variable? (variable)

sizeof

1. What range of the variable “int” and “unsigned int” (variable)

int : -2^31 ~2^31 -1

unsigned int : 0 ~ 2^32

1. Which of the following is the correct order of evaluation for the below expression? (operator, priority)

a = 4+2 – 1 \* 10 / 2 % 10

1. \* / % + - = (0)
2. = \* / % + -
3. / \* % - + =
4. \* % / - + =
5. fill out the all blanks (operator)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a | b | a&b | a|b | a^b |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 1 | 1 |
| 1 | 0 | 0 | 1 | 1 |
| 1 | 1 | 1 | 1 | 0 |

1. what is different “&” and “&&”?, when can you use “&&”? (operator)

& is for bitwise operation

1. && is for logical operation
2. true & false condition

if(…) , while(…), for(;…;) that keyword can use with logical opertaion

1. What will be the output of the program ? (string, pointer)

|  |
| --- |
| 1. **#include<stdio.h>** 2. int main() 3. { 4. char str[20] = "Hello"; 5. char \*const p=str; 6. \*p='M'; 7. printf("%s\n", str); 8. return 0; 9. } |

Mello

1. Convert switch to if/else? (control statement)

|  |
| --- |
| **#include<stdio.h>**  int main()  {  int i=3;  switch(i)  {  case 1:  printf("Hello\n");  case 2:  printf("Hi\n");  case 3:  continue;  default:  printf("Bye\n");  }  return 0;  } |

Ans)

**#include<stdio.h>**

int main()

{

int i=3;

if(i == 1)

{

printf("Hello\n");

}

else if(i==2)

{

printf("Hi\n");

}

else if(i == 3)

{

continue;

}

else

{

printf("Bye\n");

}

return 0;

}

1. Convert “for” to “while” (control statement)

|  |
| --- |
| **#include<stdio.h>**  int main()  {  int i,sum=0;    for(i = 0 ; i < 100 ; i++)  {  sum += i;  }  printf(“%d\n”,sum);  } |

Ans)

**#include<stdio.h>**

int main()

{

int i,sum=0;

i = 0;

while(i < 100)

{

sum += i;

i++

}

printf(“%d\n”,sum);

}

1. What will be the output of the program ? (operator)

|  |
| --- |
| 1. **#include<stdio.h>** 2. int main() 3. { 4. int i=4, j=8; 5. printf("%d, %d, %d\n", i|j&j|i, i|j&j|i, i^j); 6. return 0; 7. } |

i =4 : 0100 j= 8: 1000

i|j ->1100

i|j&j -> 1000

i|j&j|i -> 1100

i^j -> 1100

12, 12, 12

1. What will be the output of the program ? (pointer)

|  |
| --- |
| 1. **#include<stdio.h>** 2. int main() 3. { 4. char str[25] = "IndiaBIX"; 5. printf("%s\n", str+2); 6. return 0; 7. } |

Ans) diaBIX

1. If the size of integer is 4bytes, What will be the output of the program?

|  |
| --- |
| **#include<stdio.h>**  int main()  {  int arr[3] = {2, 3, 4};  char \*p;  p = arr;  printf("%d, ", \*p);  p = ((int\*)p+1);  printf("%d", \*p);  return 0;  } |

arr[0] 0x00 0x00 0x00 0x02

arr[1] 0x00 0x00 0x00 0x03

arr[2] 0x00 0x00 0x00 0x04

ans)

2

3

1. Write code simple calculator by using function concept (sum,minus,divide….)